Impervious Cover TMDL
Field Survey and Analysis Report

Prepared for:
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SECTION 1. Introduction

As part of their responsibilities under the Clean Water Act, the Connecticut Department of Environmental Protection (CTDEP) has developed and issued a Total Maximum Daily Load (TMDL) analysis for Eagleville Brook. The Eagleville Brook watershed is located in Mansfield, Connecticut and includes much of the University of Connecticut (UConn) campus; the watershed is listed by the state as an impaired waterbody. The TMDL, approved by the Environmental Protection Agency (EPA) in February 2007, is the first in the nation based not on a specific pollutant(s), but on impervious cover, a landscape indicator that integrates the many impacts of urban development.

The Center for Land Use Education and Research (CLEAR) is the project lead on investigating opportunities to reduce, remove, or manage existing impervious cover to meet the TMDL by which the UConn and Mansfield communities can address the TMDL, and monitor progress toward the TMDL goals, through a watershed-based management plan. The objectives of the project are to: (1) create a specific TMDL Water Quality Management Plan for Eagleville Brook, that can be followed by the UConn and the Town of Mansfield; (2) identify opportunities for best practices that can be implemented in the near term, and; (3) document a general methodology by which other regulated communities and entities can address impervious cover-based TMDLs.

CLEAR has collaborated with the Center for Watershed Protection (CWP) and Horsley Witten Group (HW) as a part of this project to complete a field assessment of stormwater retrofit opportunities in the Eagleville Brook watershed. This report summarizes the findings from 51 sites that were surveyed, recommends a prioritization framework for the projects identified and presents schematic designs for the priority concepts.

This report is organized as follows:

Section 1. Introduction – provides an introduction to the Impervious Cover TMDL Field Survey and Analysis Report.

Section 2. Field Assessment and Prioritization Methodology - provides a summary of the protocol for the retrofit inventory field assessment, lists the criteria that were used to prioritize the identified projects and discusses the assumptions made in calculating costs, pollutant removal, runoff reduction, etc. for each practice.

Section 3. Field Assessment Summary - briefly summarizes field findings and provides a list of the high priority projects.

Section 4. Priority Retrofit Projects - provides a brief description of each of the high priority projects.

SECTION 2. Field Assessment and Prioritization Methodology

2.1 Stormwater Retrofit Inventory

Potential stormwater retrofit opportunities at 51 project sites in the Eagleville Brook watershed were assessed during the retrofit inventory (Attachment A, Map A.1.). Stormwater retrofits are structural stormwater management practices that can be used to address existing stormwater management problems within a watershed. They are an essential element of a watershed restoration program because they can help improve water quality, increase groundwater recharge, provide channel protection, and control overbank flooding. Without using stormwater retrofits to address existing problems and to help establish a stable, predictable hydrologic regime by regulating the volume, duration, frequency, and rate of stormwater runoff, the success of many other watershed restoration strategies -- such as bank stabilization, riparian reforestation, and aquatic habitat enhancement -- cannot be guaranteed. In addition to the stormwater management benefits they offer, stormwater retrofits can be used as demonstration projects, forming visual centerpieces that can be used to help educate residents and/or students while building interest in watershed restoration.

Stormwater retrofits can be broken into three general categories: offsite storage, onsite nonresidential, and onsite residential. Offsite storage retrofits, such as ponds and wetlands, generally provide the widest range of watershed restoration benefits because of their ability to treat relatively large drainage areas. However, onsite retrofit practices, such as bioretention and filtration practices, can provide a substantial benefit when applied to a large number of sites within a subwatershed.

In the Eagleville Brook watershed, candidate project areas on the UConn campus and in the City of Mansfield were identified prior to field work using aerial photography, stakeholder input, and information gathered during earlier watershed site visits prior to field work. Candidate project sites were mostly located on the UConn campus due to the high amount of impervious cover found there. The City of Mansfield is largely rural residential with little opportunity for implementing retrofits. The campus was divided into three regions that each of three teams visited throughout field work, which occurred from 7/12/09-7/16/09. A map of sites visited can be found in Attachment A.

Using the Retrofit Reconnaissance Inventory (RRI) field form developed by CWP, the stormwater retrofit potential of each site was evaluated by analyzing existing drainage patterns, drainage areas, impervious cover, available space, and other site constraints (e.g. conflicts with existing utilities and land uses, site access, and potential impacts to natural areas). Unless there were obvious site constraints and/or evidence that a particular stormwater retrofit would offer few or no watershed benefits, a stormwater retrofit concept was developed. More detail on conducting the RRI protocol can be obtained directly from Schueler et al. (2007). The scanned RRI field forms can be found in Attachment E.

Each proposed stormwater retrofit was based on the size of the project site, the particular constraints and characteristics of the project site, the size of the drainage area to be treated, the current use of the land by the University, and the amount of impervious cover within the drainage area. During the field investigation, observed impervious areas that were already disconnected

were noted and recorded. Additionally, several discrepancies in the original watershed boundary provided by CT Department of Environmental Protection were identified during the field assessments. The watershed boundary was revised based on these findings. The original and revised boundaries can be found in Attachment A, Map A.2.

2.2 Project Prioritization Framework

A variety of stormwater management practices were proposed on the UConn campus, including rain gardens, bioretention, downspout disconnection, green roofs, swale enhancement, soil amendments, dry swales, porous pavement, cisterns, sand filters, constructed wetlands, floodplain reconnection, impervious cover removal, tree plantings, pervious area restoration and stormwater planters. CWP & HW used professional judgment to rank the preliminary concepts from high to low priority for further investigation based on the following factors:

- Impervious area treated
- Pollutant removal capability
- Runoff reduction
- Feasibility
- Cost
- Demonstration / education
- Maintenance

The water quality volume for each practice was calculated using the following equation based on criteria established in CT's stormwater design manual:

$$WQ_v = [(P)(R_v)(A)] / 12$$

Where:

WQ_v = water quality volume (acre-feet),
P = target rainfall depth (inches)
$R_v = 0.05 + 0.009(I)$, where (I) is the percent impervious cover of the site, and
A = site drainage area (acres)

This calculation is based on 1" of rainfall multiplied by the contributing impervious area to the practice. Runoff reduction refers to annual reduction in stormwater runoff. Pollutant removal estimates were calculated from drainage area, impervious cover, practice proposed, annual precipitation of 49" per year and removal estimates per practice based on Schueler et al. (2007). The top ten preliminary retrofit concepts have been developed into 25% detailed concepts. A brief description of each project can be found in Section 4, project concept sheets for the high priority projects can be found in Attachment C and design drawings for the high priority projects can be found in Attachment D.

2.3 Project Assumptions

Disconnection from impervious surfaces was defined prior to field work as a length of drainage to a pervious area with the same length as the impervious surface itself. Disconnected areas are shown in Attachment A, Map A.1.

Practice cost assumptions were derived from Schueler et al (2007) and are summarized in Attachment B, Table B.3. Cost data are estimates only and reflect the cost of construction and not design and engineering. For a complete list of assumptions associated with these retrofit cost estimates, see Schueler et al (2007), Appendix E.

Runoff reduction and event mean concentration pollutant removal efficiencies were derived primarily from the Runoff Reduction Technical Memo (CWP and CSN, 2008) and Virginia Department of Conservation and Recreation Best Management Practice Clearinghouse (http://www.vwrrc.vt.edu/swc/NonProprietaryBMPs.html). A summary table of these efficiencies can be found in Attachment B, Table B.4. Runoff reductions were amended in some cases due to soil permeability.

SECTION 3. Field Assessment Summary

A total of 51 sites were visited by three teams during the field inventory. 110 projects were identified at those sites and priority projects were selected via the criteria stated above. Table 1 summarizes the drainage area and impervious cover for the watershed, high priority projects, all projects together and the area determined to be disconnected when in the field. A summary of project benefits for high priority and all projects is displayed in Table 2. A summary of project benefits for the high priority projects can be found in Table 3. Attachment B contains summary tables for all the projects assessed.

High priority projects treat approximately 31 acres of impervious cover and approximately 2.6% of the watershed. These high priority projects are estimated to remove approximateoly 33 lbs of total phosphorus and result in an annual runoff reduction of 18,881 cubic feet of stormwater. During the field assessment, 53 acres of impervious cover were determined to be already disconnected. A complete list of all project sites can be found in Attachment B. If implemented, these stormwater retrofits will improve stormwater runoff quality and recharge, mitigate some of the effects of existing impervious cover, and serve as demonstration and education sites for staff, students and visitors on the UConn campus. It should be duly noted that some stormwater pollutants particularly chloride in road salts are not significantly removed by stormwater treatment practices and may negatively affect biological communities and water quality – source control is the best way to reduce the concentration of these pollutants in urban watersheds.

Table 1. Watershed & Project Summary

	Drainage Area (acres)	Impervious Cover (acres)
Total Watershed Area (acres)	1225.0	231.4
High Priority Projects Area Treated	74.3	31.9
All Projects* Area Treated	272.5	127.2
Disconnected Area[1]	53.1	50.5

*Assumes B7g option 1; Discounts C15 (already completed); Discounts double treatment by A2.

[1] Disconnection from impervious surfaces was defined prior to field work as a length of drainage to a pervious area with the same length as the impervious surface itself.

Table 2. Project Benefits Summary						
	Impervious Cover Drainage Area Treated (acres)	**Watershed Treated** (%)	**TP Removed** (lb/yr)	**TN Removed** (lb/yr)	**TSS Removed** (lb/yr)	**Runoff Reduction** (cf)
High Priority Projects	31.88	2.6	33	207	6,433	18,881
All Projects	127.19	22	72	517	14890	55,167

Table 3. High Priority Projects

Site ID	Location	Retrofit	DA IC (acres)	Cost[2]	TP Removed (lb/yr)	TN Removed (lb/yr)	TSS Removed (lb/yr)	Runoff Reduction (%)	Runoff Reduction (cf)
A3	F Lot	Terraced bioretention	1.64	$89,000	2.3	20.0	500	20%	1130
A4	F Lot	Bioretention	1.13	$41,000	1.6	13.8	346	40%	551
A5a	Motor Pool	Sand filter	1.33	$56,000	1.3	4.6	213	0%	0
A5b	Central Warehouse	Green roof	0.93	$545,000	1.1	8.0	285	45%	1444
A8a	Hurley Hall	Bioretention	0.51	$5,000	0.2	1.6	41	40%	184
A8b	Hurley Hall	Rain gardens	0.81	$16,000	0.2	1.86	47	40%	212
A8c	Hurley Hall	Rain gardens	0.88	$23,000	0.3	2.7	67	40%	304
A11a-d	Lot 9	Bioretention & grass swale	1.39	$52,000	1.9	16.0	410	10% (grass swale) 40% (bioretention)	1538
B3	Baseball Field Batting Cage	Gravel Wetland	15.11	$250,000	13.3	49.2	2263	0%	0
B5a	Parking Lot Y	Swale to Bioretention	1.32	$43,500	1.7	14.6	367	60%	2485

[2] Cost reflects an estimate of construction costs only and does not include further design and engineering.

Table 3. High Priority Projects									
Site ID	**Location**	**Retrofit**	**DA IC** (acres)	**Cost**[2]	**TP Removed** (lb/yr)	**TN Removed** (lb/yr)	**TSS Removed** (lb/yr)	**Runoff Reduction** (%)	**Runoff Reduction** (cf)
B5b	Parking Lot Y	Swale to Bioretention	0.50	$18,500	0.7	6.1	155	60%	1044
B11a	Parking Lot W	Bioretention	0.86	$27,500	1.1	9.1	230	60%	1553
B11b	Parking Lot W	Bioretention	1.38	$33,000	1.3	11.0	275	60%	1864
B11c	Parking Lot W	Swale to Bioretention	1.02	$34,000	1.3	11.4	286	60%	1932
B11d	Parking Lot W	Bioretention	0.92	$34,000	1.3	11.3	283	60%	1916
C4e	School of Education	Bioretention	0.34	$12,500	0.45	4.2	105	40%	474
C4/5a	GENT	Stormwater planters	0.12	$10,500	0.2	1.4	36	40%	161
C4/5d	GENT	Bioretention	0.07	$3,000	0.1	0.9	22	40%	100
C16	Torrey Life Sciences	Bioretention	0.28	$10,500	0.4	3.5	87	40%	115
C17	Quad in front of chemistry bldg	Bioretention	0.51	$19,000	0.7	6.2	157	40%	707
C18	Eagleville Rd	Bioretention	0.85	$31,000	1.2	10.3	259	40%	1170
Total			***31.88***	***$1,350,000***	***32.5***	***207.5***	***6433***	--	***18,881***

SECTION 4. Priority Retrofit Projects

A brief description of each high priority project can be found below. Detailed information concerning each of these projects can be found in Appendices C & D and locations can be found in Attachment A, Map A.1.

Site A3/A4

The site, Lot F, is two parking areas separated by a grassed slope, and is located over a former landfill with an impervious cap. Currently, runoff is captured in a storm drain system that discharges directly to Eagleville Brook. The proposed concept calls for the installation of two bioretention facilities. Runoff would be conveyed to each practice using paved flumes and overflow would be overland flow to the Brook.

Site A5a/b

The site is the motor pool and warehouse east of the facilities building; indications of oil spillage on the completely impervious lot are evident. Currently no stormwater treatment exists on the site despite the potential for automotive contaminants. The concept at this site is a perimeter sand filter around the motor pool parking lot and a green roof on the warehouse.

Site A8

This site is a quad area of the Hurley Hall Student Residences. Erosion is pervasive at the site as indicated by gullies in the turf area, sand and gravel on the walkways and yard inlets full of sediment. Bioretention is proposed in three locations to capture walkway runoff. An underdrain will be required due to the compacted conditions at the site; soil amendments are also recommended.

Site A11a-d

This is a highly visible site across from the campus visitor center. The parking lot is in poor condition and untreated runoff is conveyed directly to the storm drain system. The proposed concept calls for the installation of two linear bioretention areas in the medians and two small bioretention cells in existing landscaped areas.

Site B3

The site is located near the baseball fields in the SE portion of the campus. The drainage area is large (55 acres) and the practice has the potential to manage significant volumes of runoff and impervious surfaces. The concept proposes using a diversion manhole to direct flows into a pretreatment forebay that discharges to a gravel based wetland system. Flows are then forced upward through gravel filters to a vegetated wetland surface.

Site B5a/b

The site, nested within drainage area of site B3, is located along the edge of Parking Lot Y. Currently, runoff is conveyed to an underground detention pipe system, however, some drainage appears to bypass the inlets and contribute to damage of a reinforced slope at the low end of the lot. The proposed concept calls for the installation of paved flumes from two lots at strategic locations into bioretention cells.

Site B11a-d

This site, a large, underused lot that is showing signs of decay, is located near the reservoir and Greek housing area. A portion of the site drains out of the Eagleville Brook watershed and the remaining portions of the lot are divided into four catchments that capture untreated stormwater runoff. Four bioretentions are proposed at the site. Some pavement removal and lot restriping would be required. Overflow ties back into the existing drainage.

Site C4/5

The Education and Gentry buildings are located in the center of campus and are separated by a Sundial Garden quad area. Soils in the garden and in adjacent areas are very compacted; roof leaders from the buildings are directly connected to the stormdrain system. Multiple projects are proposed for the site, including directing front roof leaders to stormwater planter beds; capturing rooftop runoff in cisterns near the main entrance of the building; soil amendments in the Sundial Garden; tree plantings to reduce runoff; and direction of two downspouts near a side entrance into a bioretention facility in the Sundial Garden.

Site C16/17

This site is located between the Chemistry building and Pharmaccy/Biology building; soils are very compacted and little landscaping exists. Rooftop runoff from the Chemistry building connects directly to the storm drain system. The quad are and parking lot convey untreated stormwater directly to the Brook, which has been piped deep underneath the quad area. The proposed concept calls for the installation of three bioretention areas to capture rooftop and impervious area runoff.

Site C18

Eagleville Road runs through the center of campus and receives a significant amount of pedestrian use. The road is very wide in locations and runoff is directed to catch basins along the edge of the street. The proposed concept calls for removal of impervious cover along the road edge and installation street planter areas. The stormwater treatment facilities will also help to calm traffic and improve pedestrian safety on this busy road.

Literature Cited

Center for Watershed Protection and Chesapeake Stormwater Network. 2008. Technical Memorandum: The Runoff Reduction Method. Available online: http://www.cwp.org/Resource_Library/Center_Docs/SW/RRTechMemo.pdf

Schueler, T., D. Hirschman, M. Novotney and J. Zielinsky. 2007. Urban Subwatershed Manual No. 3: Urban Stormwater Retrofit Practices. Center for Watershed Protection.

Attachment A. Watershed Maps

B-11b
B-11a
B-11c
B-11d
C-102
C-103
C-104
C-105
C-106a
C-106b
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A-6a
A-6c
A-5a
A-5b
A-3
A-4
A-1a
A-1b
A-9
A-10b
A-10a
A-10c
A-11
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A-8b2
A-8b3
A-8a
A-7a
A-7d
A-7c
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A-2
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C-12a
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C-4c
B-07d
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C-4e
C-4f
B-07c
C-4a
C-3
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B-07g
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B-01b
B-01d

Map A.1.
Stormwater Retrofit Opportunities in the Eagleville Brook Watershed

Watershed
Disconnected Impervious Cover
Priority Projects
High
Medium
Low

CENTER FOR WATERSHED PROTECTION
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N

0 0.05 0.1 0.2 Miles

Map A.2.
Eagleville Brook Watershed

Original Watershed Boundary

Revised Watershed Boundary

N

0 0.05 0.1 0.2 Miles

Horsley Witten Group

Center for Watershed Protection

Attachment B. Stormwater Retrofit Project Summary & Calculation Assumptions

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
A1a	North campus barber stylists	Bioretention	Campus Streets	0.39	80%	0.32	1100.84	1100.84	100	M
A1b	North campus barber stylists	Bioretention	Campus Streets	0.35	100%	0.35	1191.59	1191.59	100	M
A2	Corner of Eagleville Rd and Hunting Lodge Rd	Floodplain reconnection	n/a	254.20	58%	146.93	526149.15	526149.15	N/A	M
A3	F Lot	Terraced bioretention	Perimeter Areas	1.64	100%	1.64	5648.47	5648.47	100	H
A4	F Lot	Bioretention	Perimeter Areas	1.13	100%	1.13	3900.60	1376.91	35.3	H
A5a	Motor Pool	Sand filter	Perimeter Areas	1.38	97%	1.33	4601.19	2802.00	60.9	H
A5b	Central Warehouse	Green roof	Perimeter Areas	0.93	100%	0.93	3207.83	3207.83	100	H
A6a	Alan T Busby suites (student housing)	Rain garden	Independent Residential Communities	0.23	65%	0.15	527.39	527.39	100	L
A6b	Alan T Busby suites (student housing)	Swale enhancement	Independent Residential Communities	0.53	42%	0.22	831.04	831.04	100	L
A6c	Alan T Busby suites (student housing)	Swale enhancement	Independent Residential Communities	0.46	65%	0.30	1063.10	834.54	78.5	L
A7a	Northwest dining hall and Eli Terry Hall	Bioretention OR cistern (bioretention sized)	Independent Residential Communities	0.57	85%	0.49	1695.78	1695.78	100	M
A7b	Northwest dining hall and Eli Terry Hall	Rain garden	Independent Residential Communities	0.12	95%	0.11	384.60	224.61	58.4	L

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
A7c	Northwest dining hall and Eli Terry Hall	Rain garden	Independent Residential Communities	0.15	90%	0.13	466.56	314.46	67.4	L
A7d	Northwest dining hall and Eli Terry Hall	Soil amendments and plantings/ break up flow path from paths	Independent Residential Communities	0.84	87%	0.73	2546.94	2546.94	N/A	M
A8a	Hurley Hall	Bioretention	Independent Residential Communities	0.51	92%	0.47	1631.16	459.99	28.2	H
A8b	Hurley Hall	Rain Garden	Independent Residential Communities	0.81	51%	0.20	798.33	529.11	66.3	H
A8c	Hurley Hall	Rain Garden	Independent Residential Communities	0.88	21%	0.18	760.00	760.00	100	H
A9	Farmer Brown's lot	Porous pavement	undefined	2.51	100%	2.51	8656.01	8656.01	N/A	M
A10a	X lot south of Farmer Brown's	Wetland	undefined	1.29	89%	1.14	3955.49	3955.49	100	M
A10b	X lot south of Farmer Brown's	Bioretention	undefined	0.68	100%	0.68	2346.91	2243.64	95.6	M
A10c	X lot south of Farmer Brown's	Bioretention	undefined	0.78	98%	0.77	2642.92	2642.92	100	M
A11a-d	Lot 9	Bioretention and grass swale	Perimeter Areas	1.41	98%	1.39	4786.58	4701.00	74.4	H
C102	Towers residence halls across from T lot	Bioretention	Independent Residential Communities	0.74	44%	0.32	1188.11	1188.11	100	M
C103	Towers residence halls across from T lot	Expand and fix existing bioretention	Independent Residential Communities	0.21	65%	0.14	492.77	492.77	100	M

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
C104	Towers residence halls	Two bioretentions	Independent Residential Communities	0.38	65%	0.25	886.55	886.55	100	M
C105	Towers residence halls	Trees, Soil Enhancements, Water Bars	Independent Residential Communities	1.13	50%	0.56	2044.85	2044.85	N/A	M
C106a	T Lot South of Towers residence halls	Bioretention	Perimeter Areas	0.31	90%	0.28	970.03	970.03	100	M
C106b	T Lot South of Towers residence halls	Bioretention	Perimeter Areas	0.25	100%	0.25	850.49	850.00	100	M
B1a	Parking Lot I	Bioretention	Athletics District	0.29	60%	0.17	618.92	618.92	100	M
B1b	Parking Lot I	Bioretention	Athletics District	0.68	98%	0.67	2300.50	1449.32	63	L
B1c	Parking Lot I	Drainage improvements-Regrade	Athletics District	5.22	34%	1.75	6663.58	6663.58	100	L
B1d	Parking Lot I	Outlet Stilling Basin (forebay)	Athletics District	0.54	73%	0.39	1376.83	1376.83	N/A	L
B2a	Ice Rink Service Area	Swale-Regrade	Athletics District	0.55	81%	0.45	1566.08	1566.08	N/A	M
B2b	Ice Rink Rooftop	Dry Swale	Athletics District	0.83	44%	0.37	1346.88	1346.88	100	M
B3	Baseball Field Batting Cage	Gravel Wetland	Athletics District	55.00	27%	15.11	59345.04	35725.72	60.2	H
B4a	Parking Lot D	Terraced Bioretention	Athletics District	1.82	62%	1.13	4020.38	1173.95	29.2	M
B4b	Parking Lot D	Bioretention	Athletics District	0.95	87%	0.83	2874.04	1839.39	64	M
B4c	Parking Lot D	Bioretention	Athletics District	0.75	97%	0.73	2511.46	2069.44	82.4	M

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
B5a	Parking Lot Y	Swale to Bioretention	Perimeter Areas	1.55	85%	1.32	4591.13	4141.19	90.2	H
B5b	Parking Lot Y	Swale to Bioretention	Perimeter Areas	0.65	77%	0.50	1740.13	1740.13	100	H
B6b	Hillside Road	Swale to Bioretention	No DA	0.73	34%	0.25	945.42	945.42	N/A	L
B6c	Parking Lot 8 Driveway	Planters and Bioretention	Perimeter Areas	0.49	77%	0.37	1311.71	1311.71	100	M
B7a	Memoral Stadium Access	Swale	Athletics District	0.35	98%	0.34	1175.63	1175.63	100	M
B7b	Sherman Complex/Greer Access Rd	Bioretention	Athletics District	1.46	61%	0.89	3177.83	2300.75	72.4	M
B7c	Tasker Admin Bldg	Rooftop Disconnection	Athletics District	0.05	100%	0.05	171.00	171.00	N/A	M
B7d	Uconn Foundation parking lot	Bioretention	Athletics District	0.37	49%	0.18	662.71	662.71	N/A	M
B7e	Alumni Center	Rooftop Disconnection to Bio	Athletics District	1.04	58%	0.60	2152.38	2152.38	100	H
B7f	Sherman Complex/Greer Access Rd	Permeable Pavement	Athletics District	0.74	99%	0.73	2517.42	2517.42	N/A	M
B7g-opt1	Greer Field House	Green Roof	Athletics District	0.12	100%	0.12	417.21	417.21	N/A	L
B7g-opt2	Greer Field House	Rooftop Planter	Athletics District	0.12	100%	0.12	417.21	417.21	N/A	L
B8a	South Parking Garage	Geen Roof over interior roof	undefined	0.69	100%	0.69	2384.50	2384.50	N/A	L
B8b	South Parking Garage Access Rd	Cistern for Irrigation	undefined	2.50	93%	2.32	8032.46	8032.46	N/A	M
B9a	Hilltop Residence Halls Driveway	Bioretention	Independent Residential Communities	0.19	65%	0.12	428.33	428.33	N/A	L

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
B9b	Garrigus Suites Parking Lot	Bioretention	Independent Residential Communities	0.29	79%	0.23	812.46	812.46	N/A	L
B9c	Garrigus Suites Driveway	Bioretention	Independent Residential Communities	0.17	50%	0.09	316.54	316.54	N/A	L
B9d	Alumni Drive	Bioretention	Campus Streets	0.21	99%	0.21	731.96	731.96	N/A	M
B10a	Northwood Apartments parking lot	Bioretention	undefined	0.43	97%	0.42	1450.96	1450.96	N/A	M
B10b	Northwood Apartments parking lot	Bioretention	undefined	0.57	98%	0.56	1925.46	1925.46	N/A	M
B11a	Parking Lot W	Bioretention	Perimeter Areas	0.98	88%	0.86	2971.79	2588.43	87.1	H
B11b	Parking Lot W	Bioretention	Perimeter Areas	2.57	54%	1.38	4961.50	3105.90	62.6	H
B11c	Parking Lot W	Swale to Bioretention	Perimeter Areas	1.38	74%	1.02	3597.67	3219.91	89.5	H
B11d	Parking Lot W	Bioretention	Perimeter Areas	1.09	84%	0.92	3192.67	3192.67	100	H
C1a	School of Business	Cistern	Upper Park	0.14	100%	0.14	471.96	471.96	N/A	M
C1b	School of Business	Planters	Upper Park	0.02	98%	0.02	65.50	65.50	100	M
C1d	School of Business	Bioretention	Upper Park	0.18	93%	0.17	577.25	577.25	100	M
C1c	School of Business	Bioretention	Upper Park	0.79	54%	0.43	1534.79	1375.18	89.6	M
C2	parking in front of student union	Porous pavement	Campus Streets	0.11	100%	0.11	365.60	365.60	N/A	L
C3	University library	Bioretention	Upper Park	0.03	99%	0.03	106.27	77.05	72.5	L

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
C4a	School of Education	Planters	Upper Park	0.06	100%	0.06	196.17	196.17	100	H
C4b	School of Education	Cistern	Upper Park	0.06	100%	0.06	198.41	198.41	N/A	M
C4c	School of Education	Planting	Upper Park	0.11	0%	0.00			N/A	M
C4d	School of Education	Bioretention	Upper Park	0.04	100%	0.04	133.43	133.43	100	H
C4e	School of Education	Bioretention	Upper Park	0.47	72%	0.34	1184.16	1184.16	100	H
C4f	School of Education	Bioretention	Upper Park	0.02	100%	0.02	67.34	67.34	100	M
C5a	GENT	Planters	Upper Park	0.06	100%	0.06	207.32	207.32	100	H
C5b	GENT	Cistern	Upper Park	0.06	100%	0.06	208.85	208.85	N/A	M
C5c	GENT	Planting	Upper Park	0.09	0%	0.00			N/A	M
C5d	GENT	Bioretention	Upper Park	0.03	100%	0.03	118.45	118.45	100	H
C6	William H Hall dorm	Bioretention	Lower Park	0.12	100%	0.12	425.50	425.50	100	M
C7	pavement in front of GENT	IC removal/soil amendment	Upper Park	0.06	100%	0.06	209.79	209.79	N/A	L
C8	WRMA art museum	Bioretention	Lower Park	0.04	100%	0.04	124.51	124.51	100	M
C9	Student Union	Swale and bioretention	Upper Park	0.40	59%	0.24	845.64	845.64	100	M
C10	North parking garage	Green roof	Science District	0.81	100%	0.81	2797.02	2797.02	N/A	L
C11	Hillside Rd near HJT	Bioretention	Campus Streets	0.23	98%	0.23	791.33	791.33	100	M
C12a	Harriet S Jorgenson theatre	Porous pavement	Science District	0.35	100%	0.35	1203.98	1203.98	N/A	M
C12b	Harriet S Jorgenson theatre	Green roof	Science District	0.82	100%	0.82	2818.87	2818.87	N/A	L

Table B.1. Site Characteristics

Site ID#	Location	Retrofit	Landscape Plan Campus District	DA (acres)	%IC	DA IC (acres)	WQv (cf)	Tv	Tv/WQv	Priority (H, M, L)
								% treatment of 1st inch runoff		
C12c	Harriet S Jorgenson theatre	Street trees	Science District	0.12	100%	0.12	425.76	229.91	54	M
C13a	UTEB engineering bldg	Bioretention	Science District	0.29	85%	0.24	846.46	846.46	100	M
C13b	UTEB engineering bldg	Green roof	Science District	0.18	100%	0.18	618.76	618.76	N/A	L
C14	auditorium	Porous pavement	Upper Park	0.05	100%	0.05	161.74	161.74	N/A	L
C15-opt1	Gant science complex	Green roof	Science District	0.27	100%	0.27	927.13	927.13	N/A	already completed
C15-opt2	Gant science complex	Planters	Science District	0.27	100%	0.27	927.13	927.13	N/A	N/A
C16	Torrey Life Sciences	Bioretention	Science District	0.32	89%	0.28	982.43	982.00	100	H
C17	quad in front of chemistry bldg	Bioretention	Science District	0.55	93%	0.51	1767.36	1767.36	100	H
C18	Eagleville Rd	Bioretention	Campus Streets	0.85	100%	0.07	2924.00	2924.00	100	H
C19a	Student Health Services	IC removal	Science District	0.04	100%	0.04	124.59	124.59	N/A	L
C19b	Student Health Services	Porous pavement	Science District	0.19	100%	0.19	663.95	663.95	N/A	L
C19c	Student Health Services	Green roof	Science District	0.09	100%	0.09	294.36	294.36	N/A	M
C20	School of Nursing	Bioretention	Lower Park	0.12	99%	0.11	394.54	394.54	100	L
C21	Wood Hall	Bioretention	Lower Park	0.17	100%	0.17	588.87	588.87	100	M
C22	Pharmacy/Biology Bldg	Green roof	Science District	0.36	100%	0.36	1242.98	1242.98	N/A	L
C23	Quad adjacent to ITE Bldg	Pervious area restoration	Upper Park	0.31	0%	0.00			N/A	M
C24	Old central warehouse	Bioretention	Science District	0.27	97%	0.26	887.95	229.98	25.9	L

Table B.2. Cost and Pollutant Load Removal

Site ID	Location	Retrofit	Cost ($)	TP Removed (lbyr)	TN Removed (lbyr)	TSS Removed (lbyr)	Runoff Reduction (cu ft)	Priority (H, M, L)
A1a	North campus barber stylists	Bioretention	$11,500	0.5	3.9	98	881	M
A1b	North campus barber stylists	Bioretention	$12,500	0.5	4.2	106	953	M
A2	corner of Eagleville Rd and Hunting Lodge Rd	Floodplain reconnection	$25,000	n/a	n/a	n/a	n/a	M
A3	F Lot	Terraced Bioretention	$89,000	2.3	19.9	500	1130	H
A4	F Lot	Bioretention	$41,000	1.6	13.8	346	551	H
A5a	Motor Pool	Sand filter	$56,000	1.3	4.6	213	0	H
A5b	Central Warehouse	Green roof	$545,500	1.1	8.0	284	1444	H
A6a	Alan T Busby suites (student housing)	Rain garden	$16,000	0.2	1.9	47	211	L
A6b	Alan T Busby suites (student housing)	Swale enhancement	$10,500	0.3	2.5	68	332	L
A6c	Alan T Busby suites (student housing)	Swale enhancement	$10,500	0.3	2.5	69	334	L
A7a	Northwest dining hall and Eli Terry Hall	Bioretention OR cistern (Bioretention sizing)	$18,000	0.7	6.0	150	678	M
A7b	Northwest dining hall and Eli Terry Hall	Rain garden	$7,000	0.1	0.8	20	90	L
A7c	Northwest dining hall and Eli Terry Hall	Rain garden	$9,500	0.1	1.1	28	126	L
A7d	Northwest dining hall and Eli Terry Hall	Soil ammendments and plantings/ break up flow path from paths	$19,000	1.0	7.0	161	1274	M
A8a	Hurley Hall	Bioretention	$5,000	0.2	1.6	41	184	H
A8b	Hurley Hall	Rain garden	$16,000	0.2	1.9	47	212	H
A8c	Hurley Hall	Rain garden	$23,000	0.3	2.7	67	304	H
A9	Farmer Brown's lot	Porous pavement	$1,039,000	3.8	28.1	877	3895	M

Table B.2. Cost and Pollutant Load Removal

Site ID	Location	Retrofit	Cost ($)	TP Removed (lbyr)	TN Removed (lbyr)	TSS Removed (lbyr)	Runoff Reduction (cu ft)	Priority (H, M, L)
A10a	X lot south of Farmer Brown's	Wetland	$28,000	1.5	5.5	251	0	M
A10b	X lot south of Farmer Brown's	Bioretention	$24,000	0.9	7.9	199	897	M
A10c	X lot south of Farmer Brown's	Bioretention	$28,000	1.1	9.3	234	1057	M
A11a-d	Lot 9	Bioretention & grass swale	$52,000	1.9	16.0	410	1538	H
C102	Towers residence halls across from T lot	Bioretention	$12,500	0.5	4.2	105	475	M
C103	Towers residence halls across from T lot	Expand and fix existing Bioretention	$5,500	0.2	1.7	44	197	M
C104	Towers residence halls	Two Bioretentions	$9,500	0.4	3.1	79	355	M
C105	Towers residence halls	Trees, Soil Enhancements, Water Bars	$24,500	0.8	6.4	161	1022	M
C106A	T Lot South of Towers residence halls	Bioretention	$10,500	0.4	3.4	86	388	M
C106B	T Lot South of Towers residence halls	Bioretention	$9,000	0.4	3.0	75	0	M
B1a	Parking Lot I	Bioretention	$6,500.00	0.3	2.2	55	248	M
B1b	Parking Lot I	Bioretention	$15,500	0.6	5.1	129	580	L
B1c	Parking Lot I	Drainage improvements-Regrade	$83,500	2.6	20.2	549	0	L
B1d	Parking Lot I	Outlet Stilling Basin (forebay)	$12,000	0.1	0.4	44	0	L
B2a	Ice Rink Service Area	Swale-Regrade	$10,000	0.3	2.4	69	0	M
B2b	Ice Rink Rooftop	Dry Swale	$17,000	0.5	4.1	111	539	M
B3	Baseball Field Batting Cage	Gravel Wetland	$250,000	13.3	49.2	2263	0	H
B4a	Parking Lot D	Terraced Bioretention	$12,500	0.5	4.1	104	470	M
B4b	Parking Lot D	Bioretention	$19,500	0.8	6.5	163	736	M

Table B.2. Cost and Pollutant Load Removal

Site ID	Location	Retrofit	Cost ($)	TP Removed (lbyr)	TN Removed (lbyr)	TSS Removed (lbyr)	Runoff Reduction (cu ft)	Priority (H, M, L)
B4c	Parking Lot D	Bioretention	$22,000	0.9	7.3	184	828	M
B5a	Parking Lot Y	Swale to Bioretention	$43,500	1.7	14.6	367	2485	H
B5b	Parking Lot Y	Swale to Bioretention	$18,500	0.7	6.1	154	1044	H
B6b	Hillside Road	Swale to Bioretention	$10,000	0.4	3.3	84	378	L
B6c	Parking Lot 8 Driveway	Planters and Bioretention	$9,500	0.3	2.5	63	525	M
B7a	Memoral Stadium Access	Swale	$12,500	0.5	4.2	104	470	M
B7b	Sherman Complex/Greer Access Rd	Bioretention	$24,500	1.0	8.1	204	920	M
B7c	Tasker Admin Bldg	Rooftop Disconnection	$200	0.03	0.2	13	43	M
B7d	Uconn Foundation parking lot	Bioretention	$7,000	0.3	2.3	59	265	M
B7e	Alumni Center	Rooftop Disconnection to Bio	$23,000	0.9	7.6	191	861	H
B7f	Sherman Complex/Greer Access Rd	Permeable Pavement	$302,000	1.1	8.2	255	1133	M
B7g-opt1	Greer Field House	Green roof	$71,000	0.1	1.0	37	188	L
B7g-opt2	Greer Field House	Rooftop Planter	$11,000	0.2	1.5	37	0	L
B8a	South Parking Garage	Geen Roof over interior roof	$405,500	0.8	6.0	211	1073	L
B8b	South Parking Garage Access Rd	Cistern for Irrigation	$120,500	4.5	33.2	763	3213	M
B9a	Hilltop Residence Halls Driveway	Bioretention	$4,500	0.2	1.5	38	171	L
B9b	Garrigus Suites Parking Lot	Bioretention	$8,500	0.3	2.9	72	325	L
B9c	Garrigus Suites Driveway	Bioretention	$3,500	0.1	1.1	28	17	L
B9d	Alumni Drive	Bioretention	$8,000	0.3	2.6	65	586	M
B10a	Northwood Apartments parking lot	Bioretention	$15,500	0.6	5.1	129	580	M

Table B.2. Cost and Pollutant Load Removal

Site ID	Location	Retrofit	Cost ($)	TP Removed (lbyr)	TN Removed (lbyr)	TSS Removed (lbyr)	Runoff Reduction (cu ft)	Priority (H, M, L)
B10b	Northwood Apartments parking lot	Bioretention	$20,500	0.8	6.8	171	770	M
B11a	Parking Lot W	Bioretention	$27,500	1.1	9.1	230	1553	H
B11b	Parking Lot W	Bioretention	$33,000	1.3	11.0	275	1864	H
B11c	Parking Lot W	Swale to Bioretention	$34,000	1.3	11.4	286	1932	H
B11d	Parking Lot W	Bioretention	$34,000	1.3	11.3	283	1916	H
C1a	School of Business	Cistern	$7,000	0.3	2.0	45	189	M
C1b	School of Business	Planters	$2,000	0.03	0.2	6	26	M
C1d	School of Business	Bioretention	$6,000	0.24	2.0	5	231	M
C1c	School of Business	Bioretention	$14,500	0.56	4.9	122	550	M
C2	parking in front of student union	Porous pavement	$44,000	0.16	1.2	37	165	L
C3	University library	Bioretention	$1,000	0.03	0.3	7	31	L
C4a	School of Education	Planters	$5,000	0.08	0.7	17	161	H
C4b	School of Education	Cistern	$3,000	0.11	0.8	19	79	M
C4c	School of Education	Planting	$1,500	0.04	0.3	9	0	M
C4d	School of Education	Bioretention	$1,500	0.05	0.5	12	101	H
C4e	School of Education	Bioretention	$12,500	0.48	4.2	105	474	H
C4f	School of Education	Bioretention	$800	0.03	0.2	6	27	M
C5a	GENT	Planters	$5,500	0.1	0.7	18	83	H
C5b	GENT	Cistern	$3,500	0.1	0.9	20	84	M
C5c	GENT	Planting	$1,500	0.03	0.2	7	0	M
C5d	GENT	Bioretention	$1,500	0.1	0.4	10	47	H
C6	William H Hall dorm	Bioretention	$4,500	0.2	1.5	38	340	M
C7	Pavement in front of GENT	IC removal/soil amendment	$10,500	0.4	3.4	86	105	L
C8	WRMA art museum	Bioretention	$1,500	0.1	0.4	11	50	M
C9	Student Union	Swale and Bioretention	$9,000	0.4	3.0	75	338	M
C10	North parking garage	Green roof	$475,500	1.0	7.0	248	1259	L
C11	Hillside Rd near HJT	Bioretention	$8,500	0.3	2.8	70	317	M
C12a	Harriet S Jorgenson theatre	porous pavement	$144,500	0.5	3.9	122	542	M

Table B.2. Cost and Pollutant Load Removal

Site ID	Location	Retrofit	Cost ($)	TP Removed (lbyr)	TN Removed (lbyr)	TSS Removed (lbyr)	Runoff Reduction (cu ft)	Priority (H, M, L)
C12b	Harriet S Jorgenson theatre	Green roof	$479,500	1.0	7.0	250	1268	L
C12c	Harriet S Jorgenson theatre	Street trees	$6,000	0.1	0.8	20	92	M
C13a	UTEB engineering bldg	Bioretention	$9,000	0.4	3.0	75	339	M
C13b	UTEB engineering bldg	Green roof	$105,500	0.2	1.5	55	278	L
C14	auditorium	Porous pavement	$19,500	0.1	0.5	16	73	L
C15-opt1	Gant science complex	Green roof	$158,000	0.3	2.3	82	417	already completed
C15-opt2	Gant science complex	Planters	$24,500	0.4	3.3	82	0	N/A
C16	Torrey Life Sciences	Bioretention	$10,500	0.4	3.5	87	115	H
C17	Quad in front of chemistry bldg	Bioretention	$19,000	0.7	6.2	157	707	H
C18	Eagleville Rd	Bioretention	$31,000	1.2	10.3	260	1170	H
C19a	Student Health Services	IC removal	$2,000	n/a	n/a	n/a	n/a	L
C19b	Student Health Services	Porous pavement	$80,000	0.3	2.2	67	299	L
C19c	Student Health Services	Green roof	$50,000	0.1	0.7	26	132	M
C20	School of Nursing	Bioretention	$4,500	0.2	1.4	35	158	L
C21	Wood Hall	Bioretention	$6,500	0.2	2.1	52	471	M
C22	Pharmacy/Biology Bldg	Green roof	$211,500	0.4	3.1	110	559	L
C23	Quad adjacent to ITE Bldg	Pervious area restoration	n/a	n/a	n/a	n/a	0	M
C24	Old central warehouse	Bioretention	$2,500	0.1	0.8	20	92	L

Table B.3. Practice Cost Assumptions			
Unit Costs			
Derived From: Urban Subwatershed Restoration Manual (USRM) 3, Appendix E, Table E.4, Median Cost (except where noted)			
Practice	**Qualifier**	**Unit Cost ($/cf treated)**	**Notes**
Green Roof	Extensive green roof	$170.00	Appendix E -- assumes "Extensive" green roof system
Rooftop Disconnection	100-900 ft^2 of rooftop, 1" of rainfall, $50 per disconnection	$1.00	Derived from programs evaluated in Portland, OR
Rain Tank/Cistern	Cistern or larger storage device	$15.00	Appendix E
Soil Amendments		$7.50	Appendix E
Filter Strip	Width = 25 to 75 ft	$6.00	Appendix E
Permeable Pavement		$120.00	Appendix E
Grass Channel	3 - 5% of CDA	$6.25	Half of water quality swale. Can also use $15/lf (WDNR, 2003)
Bioretention	> 0.5 acre treated	$10.50	Table E.4 & Section D.3. Can also use $25 per sf (WDNR, 2003)
Rain Garden	< 0.5 acre treated	$30.00	Table E.4 & Section D.1. Can also use $15 per sf (WDNR, 2003)
Stormwater Planters		$26.00	Appendix E
Infiltration	3 -- 5% of CDA	$15.00	Appendix E, Table E.4. Can also use $10 per sf (WDNR, 2003)
Dry Wells/French Drain		$11.50	Appendix E
Dry Swale	3 -- 5% of CDA	$12.50	Appendix E, Table E.4
Wet Swale	3 -- 5% of CDA	$12.50	Assumed to be same as Dry Swale
Extended Detention Pond	2 -- 4% of CDA	$3.00	Appendix E, Table E.4. Can also use $3800 per impervious acre.
Filtering Practice	3 -- 5% of CDA	$20.00	Appendix E, Table E.4. Assumes structural filter.
Constructed Wetland	3 -- 6% of CDA	$7.00	Appendix E. Can also use $2900 per impervious acre.

Table B.3. Practice Cost Assumptions			
Unit Costs			
Derived From: Urban Subwatershed Restoration Manual (USRM) 3, Appendix E, Table E.4, Median Cost (except where noted)			
Practice	**Qualifier**	**Unit Cost ($/cf treated)**	**Notes**
Wet Pond	3 -- 5% of CDA	$5.00	Appendix E. Can also use $8350 per impervious acre.
Regenerative Design			
Other Practices (not included in remainder of spreadsheet)			
Catch Basin Insert		$4.00	*From EPA Website: http://cfpub.epa.gov/n*pdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=77
Downspout Disconnection to Rain Barrel	1 or several 55-gallon barrels	$25.00	
Impervious Cover Removal		$20.00	
Reforestation/Tree Planting/Native Landscaping		$5.00	Based on guidance in the Chesapeake Bay Riparian Handbook and City of Portland Stormwater Management Manual
References			
City of Portland Stormwater Management Manual is available on line at: http://www.portlandonline.com/BES/index.cfm?c=47952			
Chesapeake Bay Riparian Handbook is available online at: http://www.chesapeakebay.net/pubs/subcommittee/nsc/forest/sect06.pdf			
Runoff Reduction Method Technical Memo is available online at: http://www.cwp.org/Resource_Library/Center_Docs/SW/RRTechMemo.pdf			
Urban Subwatershed Restoration Manaul No. 3: Urban Stormwater Retrofit Practices is available online at: http://www.cwp.org/formmaker/Download-Form_RedirectFormPage.html			
Wisconsin Department of Natural Resources (WDNR). 2003. *Rain gardens: A how-to manual for homeowners*. Madison, WI.			
List of Acronymns			

Table B.3. Practice Cost Assumptions			
Unit Costs			
Derived From: Urban Subwatershed Restoration Manual (USRM) 3, Appendix E, Table E.4, Median Cost (except where noted)			
Practice	**Qualifier**	**Unit Cost ($/cf treated)**	**Notes**
CDA	Contributing Drainage Area		
cf	cubic foot/feet		
sf	square foot/feet		

Table B.4. Runoff Reduction & EMC Pollutant Removal Efficiencies, Derived from *Runoff Reduction Technical Memo* (CWP & CSN, 2008) and Virginia DCR BMP Clearinghouse (http://www.vwrrc.vt.edu/swc/NonProprietaryBMPs.html)

	Runoff Reduction (%)							
Practice	**Soil Permeability Low/None**	**Soil Permeability Moderate**	**TP EMC Reduction (%)**	**Total TP Reduction (%)**	**TN EMC Reduction (%)**	**Total TN Reduction (%)**	**TSS EMC Reduction (%)**	**Total TSS Reduction (%)**
Green Roof	45%	-	0%	45%	0%	45%	50%	70%
Rooftop Disconnection	25%	50	0%	25%	0%	25%	50%	60%
Rain Tank/Cistern	40%	-	0%	75%	0%	75%	0%	75%
Soil Amendments	50%	-	0%	50%	0%	50%	0%	50%
Permeable Pavement	45%	75	25%	59%	25%	59%	65%	80%
Grass Channel	10%	10%	15%	23%	20%	28%	30%	35%
Bioretention / Rain Garden	40%	80	25%	55%	40%	64%	50%	70%
Stormwater Planters	40%	40%	25%	55%	40%	64%	50%	70%
Dry Swale	10%	20	20%	52%	25%	55%	40%	65%
Swale Enhancement	40%	60	20%	20%	25%	25%	40%	40%
Constructed Wetland	0%	-	50%	50%	25%	25%	50%	50%
Wet Pond	0%	-	50%	50%	30%	30%	50%	50%
References								
Runoff Reduction Technical Memo is available online at: http://www.cwp.org/Resource_Library/Center_Docs/SW/RRTechMemo.pdf								
List of Acronymns								
BMP	Best Management Practice							
EMC	Event Mean Concentration							
TP	Total Phosphorus							
TN	Total Nitrogen							
TSS	Total Suspended Solids							
VA DCR	Virginia Department of Conservation and Recreation							

Attachment C. Concept Sheets for High Priority Projects

Site A3/4: F Lot

Terraced Parking Lot Bioretention

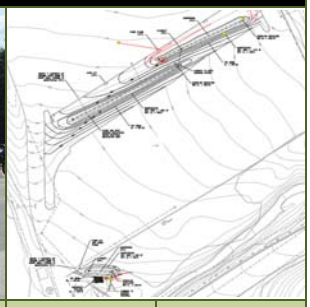
Project Summary		
		
Parameter	A3	A4
Impervious Cover Treated (acres)	1.64	1.13
Runoff Reduction Volume (cu ft per 1" rain event)[1]	1130	550
TN Removal (lb/yr)	19.91	13.75
TP Removal (lb/yr)	2.31	1.6
TSS Removal (lb/yr)	500.81	345.9
Estimated Cost	$89,000	$41,000
[1] Although this project has no actual infiltration a reduced level of runoff reduction is calculated to account for extended filtration and evapotranspiration.		

Figure 1. Drainage areas to proposed bioretention cells.

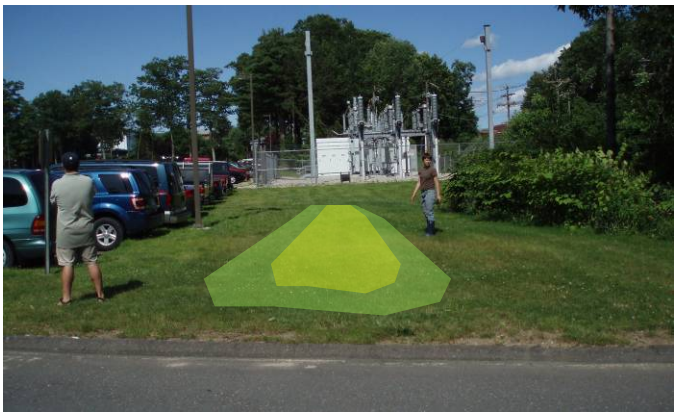


Figure 2. Location of terraced A3 bioretention down slope between two parking areas (upper photo), Location of A4 bioretention cell near entrance to parking lots (lower photo).

Site Description

The proposed retrofit concept is located on the UConn Campus in the F Lot. The site is a terraced parking lot, with an upper and lower parking area separated by a grassed slope (Figure 1). The site is over a former landfill with an impervious cap.

Existing Conditions

Runoff from both lots is captured in an enclosed storm drain system, which discharges directly to Eagleville Brook. Grassed areas, including a sloped island between the upper and lower parking areas and below the lower parking area, currently receive no runoff from the parking lot.

Proposed Concept

Install two bioretention areas, one in the sloped island between the upper and lower parking area (Site A3), and one below the lower parking area (Site A4). Figure 2 shows locations of proposed practices as seen in the field. Convey runoff to each practice using paved flumes. Each of the filters will allow 6-9" of ponding depth above the filter. Two bioretention filters, constructed in fill (i.e., above the landfill cap) will capture runoff from the upper parking lot. The filter bed will be sloped, ranging from 6" to 18", constructed above the existing grade. An underdrain will be installed at the lower

end of each filter. This underdrain will tie into an overflow structure which will then convey stormwater to a very deep storm drain system.

At the lower site A4, the practice will be excavated to a filter depth of 12", then captured in an underdrain and conveyed to Eagleville Brook. The site.overflow for this practice is a spillway which allows overland flow to the Brook.

Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections and project details. These initial plans will require field survey and more information on drainage pipes, utilities, and soils (among other things) before going to construction plans.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the following table.

Sizing Calculations for Sites A3/A4		
Parameter	**Value**	
	A3	A4
Drainage Area, A (acres)	1.64	1.13
Imperviousness, I (%)	100	100
Volumetric Runoff Coefficient, Rv	0.95	.95
Rainfall Depth, P (in)	1	1
Water Quality Volume, WQv (cf)	5,648	3,901
Depth of the Filter Bed, d (ft)	1	1
Hydraulic Conductivity, k (ft/day)	1	1
Max. Ponding Depth, hmax (in)	9	9
Average Ponding Depth, h (ft)	0.375	0.375
Drawdown Time, t (days)	2	2
Surface Area Required, Af (sq. ft)	2,054	1,418
Surface Area Provided (sq ft)	3,125	500
Treatment Provided (% of 1")	100	35

Design Considerations

For site A3, the greatest design constraint is the landfill cap below the filter proposed in the sloped median between the two parking areas. The proposed design assumes that the filter is completely in fill, with the bottom of the filter adjacent to the existing ground surface. Designers should investigate the possibility of excavating slightly into the landfill cap, providing a flat filter bottom at a depth of 18".

Three potential constraints need to be investigated:

- Electric lines are in the vicinity of the proposed filter, and their locations need to be confirmed.
- The filter is shallow due to potentially high groundwater table. Need to confirm depth of high groundwater.
- Available mapping suggest that the landfill cap does not extend to this area of the F Lot site. Need to confirm.

Maintenance

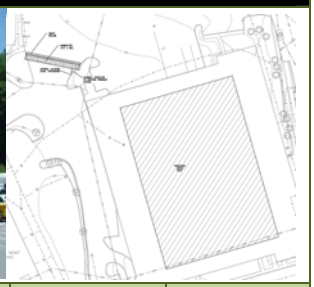
Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

Maintenance Activities for Sites A3/4	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and ensure they are immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch	Every 2 to 3 Years

Site A-5: Warehouse and Motor Pool

Perimeter Sand Filter/ Green Roof at Stormwater Hotspots

Project Summary



Parameter	A-5a	A-5b
Impervious Cover Treated (acres)	1.33	0.93
Runoff Reduction Volume (cu ft per 1" rain event)	0	1,444
TN Removal (lb/yr)	4.63	8.0
TP Removal (lb/yr)	1.25	1.1
TSS Removal (lb/yr)	212.96	284
Estimated Cost	$56,000	$545,400

Site Description

The proposed retrofit concept is located on the UConn Campus at the motor pool and warehouse east of the facilities building (Figure 1). The motor pool's parking area is entirely impervious, with some indications of oil spillage near the fueling area. The warehouse has a large, flat roof.

Existing Conditions

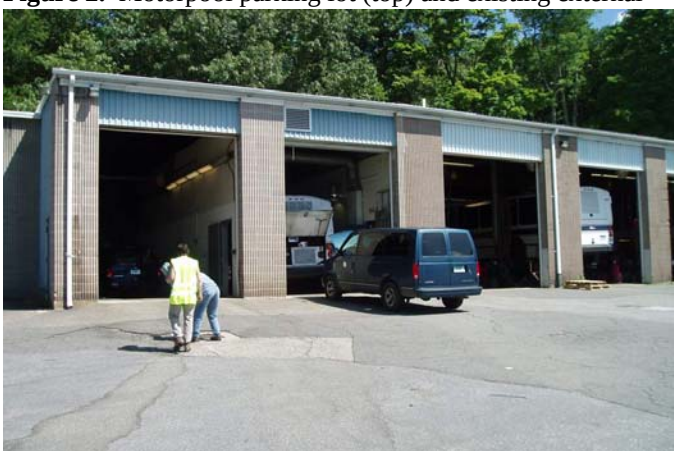
Runoff from this site is captured in an enclosed storm drain system. Although there appears to be a trap to capture drainage from inside the building, presumably leading to the sanitary sewer system, there is currently no stormwater treatment on the site. Consequently, the potential for automotive contaminants (i.e., oil, antifreeze, brake fluid) to come into contact with stormwater is high (Figure 2).

Proposed Concept

Install a perimeter sand filter to capture motorpool parking lot runoff (Site A5a), and a green roof on the rooftop (Site A5b). Convey overflow from these practices to the existing storm drain system.

Figure 1. Drainage areas to two proposed practices, a sand filter (A5-a) and green roof (A-5b).

Figure 2. Motorpool parking lot (top) and existing external rooftop drains from warehouse to storm drain (lower).



Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections and project details. These initial plans will require field survey

and more information on drainage pipes and utilities before going to construction plans.

Preliminary Hydrologic Calculations

Preliminary sizing was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the following table.

Sizing Calculations for Sites A-5a/b		
Parameter	**Value**	
	A-5a	A5-b
Drainage Area, A (acres)	0.92	0.93
Imperviousness, I (%)	97	100
Volumetric Runoff Coefficient, Rv	0.92	0.95
Rainfall Depth, P (in)	1	1
Water Quality Volume, WQv (cf)	4,600	3,208
Porosity	--	0.4
Depth of the Filter Bed, d (ft)	1.5	--
Hydraulic Conductivity, k (ft/day)	3.5	
Max. Ponding Depth, hmax (in)	12	
Average Ponding Depth, h (ft)	0.5	
Drawdown Time, t (days)	1	
Surface Area Required, Af (sq. ft)	*986*	
Media Depth Required (in)	--	2.5
Surface Area Provided (sq ft)	600	40,520
Treatment Provided (% of 1")	61	100

Design Considerations

For site A-5a, the depths and locations of storm drainage needs to be confirmed. Available storm drain infrastructure maps suggest that no storm drains exist within the parking lot, or in the adjacent road, but field investigations indicate at least one storm drain structure in the parking lot, and an additional structure near the entrance of the lot treated by practice A-5a. Mapping needs to be validated.

In addition, the filter at site A-5a is relatively close to mapped water and electric lines. The specific location of these utilities needs to be verified in the field.

For site A-5b, the roof's structural integrity needs to be verified to confirm that a green roof is a feasible option. Lessons learned from other green roof installations on campus should be incorporated into planning, construction, and long-term maintenance.

Maintenance

The routine maintenance activities typically associated with sand filters (A-5a) and green roofs (A-5b) are summarized in the tables below.

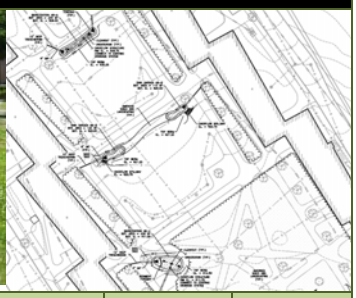
Maintenance Activities for Sandfilters	
Activity Schedule	**Frequency**
• Remove blockages and obstructions from inflows. • Relieve clogging. • Stabilize contributing drainage area and side-slopes to prevent erosion.	As Needed (following construction)
• Inspection and cleanup.	Annually
• Cleanout wet sedimentation chambers.	Every 2 to 3 Years
• Replace top sand layer.	Every five years

Maintenance Activities for Green Roofs	
Activity Schedule	**Frequency**
• Water to promote plant growth and survival. • Inspect the green roof and replace any dead or dying vegetation.	As Needed (Following Construction)
• Inspect the waterproof membrane for leaking or cracks. Repair as needed. • Inspect outflow and overflow areas for sediment accumulation. Remove any accumulated sediment or debris. • Inspect the green roof for dead, dying, or invasive vegetation. Plant replacement vegetation as needed.	Semi-Annually (Quarterly During First Year)

Site A8: Hurley Hall

Rooftop Disconnection with Bioretention

Project Summary



Parameter	A8a	A8b	A8c
Impervious Cover Treated (acres)	0.51	0.81	0.88
Runoff Reduction Volume (cu ft per 1" rain event)	184	212	304
TN Removal (lb/yr)	1.62	1.86	2.68
TP Removal (lb/yr)	0.19	0.21	0.31
TSS Removal (lb/yr)	40.79	46.9	67.39
Estimated Cost	$4,900	$15,900	$22,800

Site Description

The proposed concepts are located in the quad area of the Hurley Hall Student Residences, which are located on the UConn Campus on the north side of N Eagleville Road. The quad area is terraced and slopes toward Eagleville Rd.

Existing Conditions

Runoff from the walkways along the quad area drain to the central grass quad area. Gully erosion is evident in the quad area and along walkways, and sand and gravel has accumulated on the paths. Yard inlets in the quad area are full of sediment. Rooftop runoff from the residences is conveyed via internal roofdrains in the storm drain system.

Proposed Concept

Install bioretention areas in three locations in the quad area to capture walkway runoff. These three locations are shown in Attachment B. Install trench drains across the walkway to intercept runoff and convey it into the bioretention practices.

Construct a forebay area at the bioretention inlets to dissipate the energy and velocity of the runoff entering the bioretention areas. The bioretention areas should have a filter depth of 24 inches and provide 6-9 inches of ponding depth.

Figure 1. Runoff from quad walkways resulting in erosion (top); Sediment accumulation on walkways and in quad area (bottom).

Due to the compacted nature of the quad soils, an underdrain should be included in the design of the larger bioretention areas. The underdrain and overflow should tie into existing yard drains. The smaller areas in the center of the quad can be designed to overflow into existing yard inlets.

Soils in the quad should be amended as shown on the site plan to improve porosity and infiltration. Landscaping can be incorporated into these amended areas.

Preliminary Concept Designs

25% concept designs for the proposed retrofit can be found in attachment B. Preliminary plan views and project details are included. These initial plans will need to be further refined as this project proceeds towards construction.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing Calculations for Site A8			
Parameter	**Value**		
	A8a	A8b*	A8c
Drainage Area, A (acres)	0.51	0.81	0.88
Imperviousness, I (%)	92	51	21
Volumetric Runoff Coefficient, Rv			
Rainfall Depth, P (in)	1	1	1
Water Quality Volume, WQv (cf)	1631	798	760
Depth of the Filter Bed, d (ft)	2.5	2.5	2.5
Hydraulic Conductivity, k (ft/day)	1	1	1
Max. Ponding Depth, hmax (in)	9	9	9
Average Ponding Depth, h (ft)	0.375	0.375	0.375
Drawdown Time, t (days)	2	2	2
Surface Area Required, Af (sq. ft)	709	347	330
Surface Area Provided (sq ft)	200	230	400
Treatment Provided (% of 1")	28.2	66.3	100
*note two bioretention areas are combined			

Design Considerations

- While utility constraints are expected to be minimal, detailed utility mapping should be obtained before completing the final project design.
- This project presents an opportunity for students and faculty at Uconn to be involved in the final design and construction of this project.

Maintenance

- Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

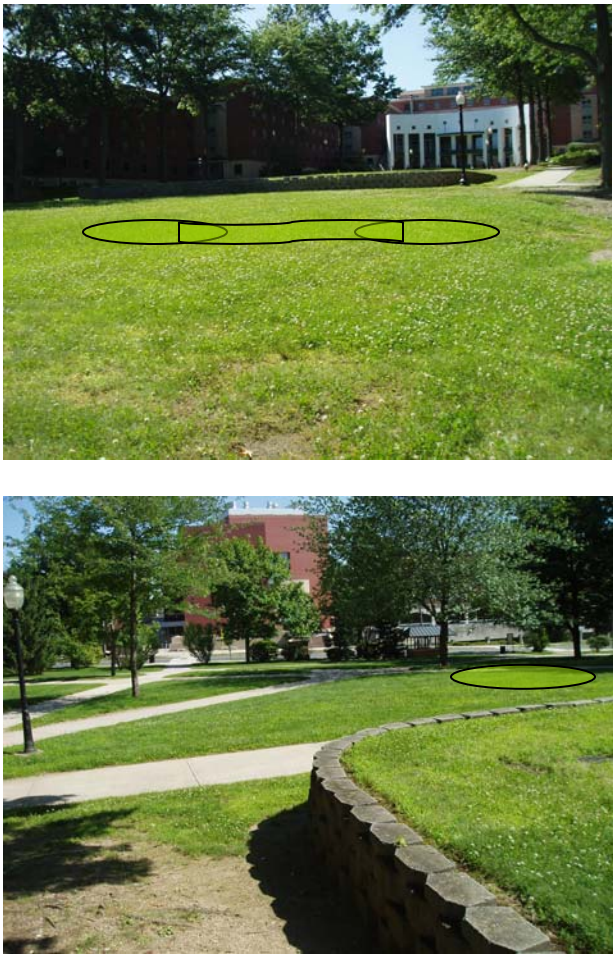


Figure 2. Proposed location of bioretention areas at site A8b (top) and A8c (bottom).

Maintenance Activities for Bioretention	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch	Every 2 to 3 Years

Site A-11: Lot 9

Parking Lot Bioretention

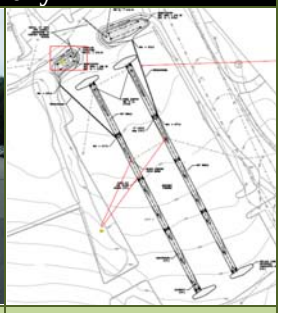
Project Summary	
	
Parameter	***A11a-d***
Impervious Cover Treated (acres)	1.39 acres
Runoff Reduction Volume (cu ft per 1" rain event)	1,538 cf
TN Removal (lb/yr)	16.02 lb/yr
TP Removal (lb/yr)	1.90 lb/yr
TSS Removal (lb/yr)	409.61 lb/yr
Estimated Cost	$51,700

Figure 1. Total drainage area to proposed retrofit practices in Lot 9.

Figure 2. Current parking configuration looking north

(above), and existing northeast landscaped area to be converted to bioretention (below).

Site Description

The proposed retrofit concept is located on the UConn Campus in Lot 9, across from the Visitors Center. The parking lot is heavily used, and in relatively poor condition.

Existing Conditions

Runoff from the site is captured in an enclosed storm drain system, and conveyed to the north. Small landscaped areas to the north receive no drainage from the lot or other impervious areas.

Proposed Concept

Install linear bioretention areas (grassed swales) in medians between existing parking areas. Convey stormwater to these swales using curb cuts. Install 6" check dams along the swale. Existing storm drain structures will act as overflow for large storm events.

Construct two small bioretention cells in the existing landscaped areas. Use curb cuts to receive direct parking lot runoff. In addition, capture small storm runoff from swales in the median via a 6" dip within the swale. Yard drains in these structures will be tied in to existing storm drain structures in the road.

Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections and project details. These initial plans will need to be further refined as this project proceeds towards construction.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the following table.

Sizing calculations for Site A11		
Parameter	**Value***	
	A-11c/d (Swales)	**A-11a/b (Bio)**
Drainage Area, A (acres)	1.41	1.41
Imperviousness, I (%)	98	98
Volumetric Runoff Coefficient, Rv	0.93	0.93
Rainfall Depth , P (in)	1	1
Water Quality Volume, WQv (cf)	4,790	4,790
Depth of the Filter Bed, d (ft)	--	2.5
Bottom width (ft)	2	--
Side slopes	3:1	--
Hydraulic Conductivity, k (ft/day)	--	1
Drawdown Time, t (days)	--	2
Max. Ponding Depth, hmax (in)	--	9
Average Ponding Depth, h (ft)	0.5	0.375
Cross-Sectional Area (ft)	1.75	--
Length Required (ft)	*2,740*	--
Length Provided (ft)	650	--
Surface Area Required, Af (sq ft)	--	1,495
Surface Area Provided (sq ft)	--	1,550
Treatment Provided (% of 1")	24	75
*Note: Table summarizes total length of both swales and bios		

Design Considerations

Some key design considerations include the following:

- Confirm location of underground electric lines at northeast filter area.
- The proposed filters will require a parking lot reconfiguration. Angled parking, combined with one-way traffic, may be needed to accommodate these swales.
- Available mapping does not indicate how storm drainage from the parking lot connects to the storm drain network in the street and needs to be field-verified.
- The Sasaki Landscaping Plan indicates that tree plantings at the eastern edge of Lot 9 may reduce the lot size. This design does not account for that parking lot loss. An alternative design may utilize only one swale, or an alternative to parking lot swales, such as parking lot tree planters.

Maintenance

Maintenance is important for bioretention areas and grassed swales. The routine maintenance activities typically associated with bioretention areas are summarized in the following tables below.

Maintenance Activities for Site A-11	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half- inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch.	Every 2 to 3 Years

Site B3: Christian Field/Batting Cages

Gravel-based Wetland Systems

Project Summary	
	
Parameter	**B3**
Impervious Cover Treated (acres)	15.1 acres
Runoff Reduction Volume (cu ft per 1" rain event)	0
TN Removal (lb/yr)	49.19
TP Removal (lb/yr)	13.28
TSS Removal (lb/yr)	2,262.73
Estimated Cost	$250,100

Site Description

The proposed retrofit concept is located by the baseball fields and batting cages in the southeastern portion of the UConn Campus.

Existing Conditions

Existing drainage pipe system collects runoff from pervious and impervious surfaces for 55 acre drainage area and discharges into Red Brook (Figure 1). Existing 24 inch pipe runs along open field areas with inlets, likely under baseball field and across Stadium Road. Some of this area is currently managed by upgradient stormwater BMPs. Because a portion of this conveyance appears to have been a former stream, there is likely a shallow depth to groundwater. The location of inlets or manholes in the vicinity of the site were not found. The pipe invert at the outfall is less than 5 feet.

Proposed Concept

Proposed installation of a gravel based wetland system with forebay, designed offline with approximately 5,050 sq ft of available surface area (Figure 2). Use a diversion manhole to divert flows from existing drain line into pretreatment forebay with outlet structure that discharges into bottom of chambered, gravel wetland system. Flows are forced up through gravel filters to a vegetated wetland surface where additional pollutants can be removed via plant uptake. Overflow from the wetland is discharged back into existing stormdrain. An emergency spillway drains into existing low area/wetland to the southwest.

This project is feasible and very attractive, as few locations on campus offer the ability to manage significant volumes of runoff and impervious surfaces. Available surface area limits available treatment capability; however additional retrofit projects in the drainage area (i.e, B5a/b) may help reduce sizing requirements.

Figure 1. Drainage areas to proposed gravel wetland system include additional proposed retrofits.

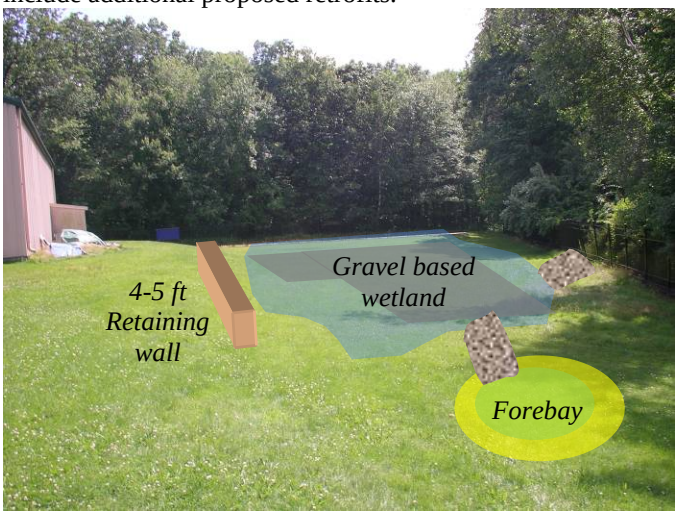


Figure 2. Gravel based wetland system with underground chambers, pretreatment sediment forebay, and retaining wall.

Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections, and project details (Figure 3). These initial plans will require field survey and more information on drainage pipes, utilities, and soils (among other things) before going to construction plans.

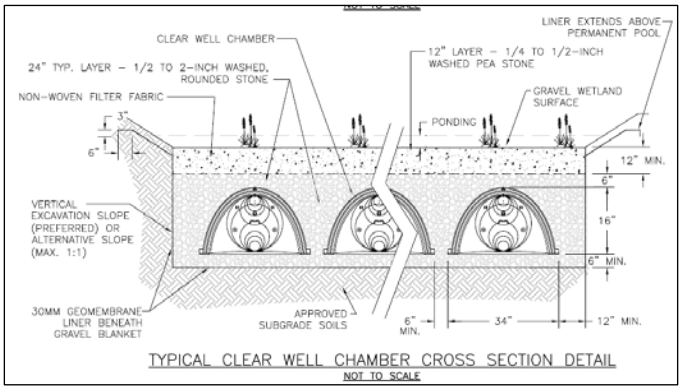


Figure 3. Typical cross section of gravel wetland showing underground storage chambers and vegetated surface where water pushed up from below is designed to pond.

Preliminary Hydrologic Calculations

Preliminary sizing of the gravel based wetland system was completed based on guidance provided in the *2009 Rhode Island Stormwater Manual (public review draft)* and are summarized in the table below.

Sizing calculations for Site B3	
Parameter	**Value**
Drainage Area, A (acres)	55.0
Imperviousness, I (%)	27
Volumetric Runoff Coefficient, Rv	0.30
Rainfall Depth, P (in)	
Water Quality Volume, WQv (cf)	59,345
Surface Area Required, Af (sq. ft)	8,386
Surface Area Provided (sq ft)	5,050
Treatment Provided (% of 1")	60

Design Considerations

- Sizing of facility is constrained by space and grade. Note the height of retaining wall, depth of forebay, and available head driving upflow filter. Sizing of facility can potentially be reduced if additional retrofits are installed within the drainage area upgradient.
- Must verify location of all existing storm drain infrastructure. Double check potential utility conflicts (i.e., sewerline).
- Final design to include cleanouts for gravel wetland and maintenance access for forebay.
- May need to relocate existing fence and install guardrail along road.

Maintenance

Maintenance will generally be related to landscaping practices and sediment removal from pretreatment forebay to prevent clogging. Inspect semi-annually for the first year of operation and annually after the first year as well as after major storm events. The routine maintenance activities typically associated with gravel-based wetlands are summarized in the table below.

Maintenance Activities	
Activity	**Schedule**
• Replant vegetation to original design standards if less than 50% of the original vegetation is established	After two years
• Remove and replace ill-established, dead, or severely diseased plants	Annual
• Inlets, outlets, and overflow spillway will be checked for blockage, structural integrity, and evidence of erosion • Sediment build up at the cleanout pipe will be removed	Routinely and after major storm events
• Clean and remove debris at cleanout pipe • Sub-surface storage chambers shall be flushed and/or snaked	As needed (if standing water is observed 48 hours after storm event)

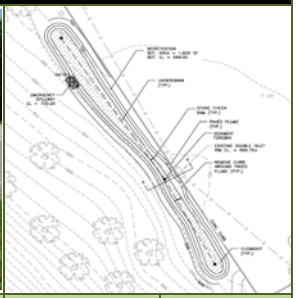
Cost Considerations

$30/sf, not including utility/ main drainage pipe relocation.

Site B5: Parking Lot Y

Managing Parking Lots with Bioswales

Project Summary



Parameter	*B5a*	*B5b*
Impervious Cover Treated (acres)	1.32	0.5
Runoff Reduction Volume (cu ft per 1" rain event)	2,485	1,044
TN Removal (lb/yr)	14.6	6.13
TP Removal (lb/yr)	1.69	0.71
TSS Removal (lb/yr)	367.18	154.29
Estimated Cost	$43,500	$18,300

Site Description

The proposed retrofit sites are located in the grassed area along the western edge of Parking Lot Y on the UConn campus. The Y Lot is a large parking lot (upper lot) currently draining to existing inlets that discharge toward Lot 8 then, ultimately, towards Site B3 (proposed gravel based wetland).

Existing Conditions

The entire lot (2.2 acres) drains towards the western edge of the parking area to one of two inlets along the curb (~1.8 impervious acres). These inlets convey stormwater northward to an underground detention pipe system with an offline Vortechnic device (WQ Unit) in Lot 8.* Snow storage for Lot Y is over the hill and results in large sand deposits beyond the parking lot edge.

**Lot 8 surface drainage appears to bypass inlets at low end of parking lot, likely contributing to slope damage of reinforced slope.*

Proposed Concept

Remove existing curb at each side of double inlets and install paved flumes to allow surface drainage from parking lot to enter forebays of two bioretention cells excavated in existing grassed areas (Sites A and B, Figure 1). Install curb cuts/paved flumes at other strategic locations to better distribute runoff into practices (Figure 2). Bioretention designed with sediment forebays, underdrains, and an overflow mechanism back into existing inlets (Figure 3).

Figure 1. Drainage areas to two proposed bioretention cells.

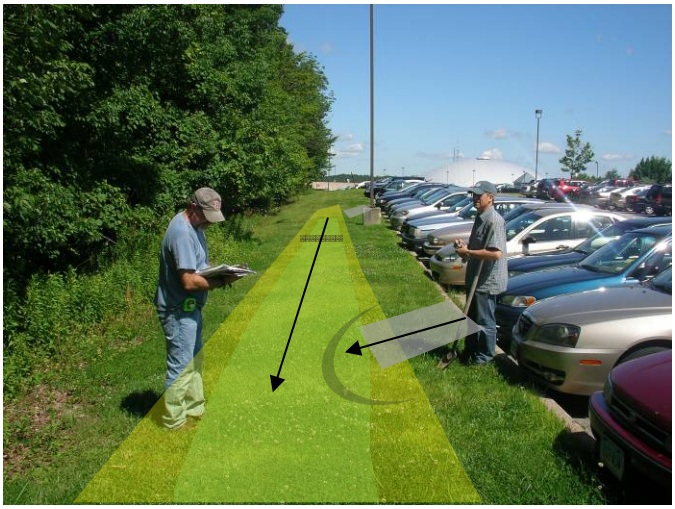


Figure 2. Proposed location of bioretention/swale system in grassed edge of Parking Lot Y. Curb cuts allow inflow to forebays at strategic locations along system.

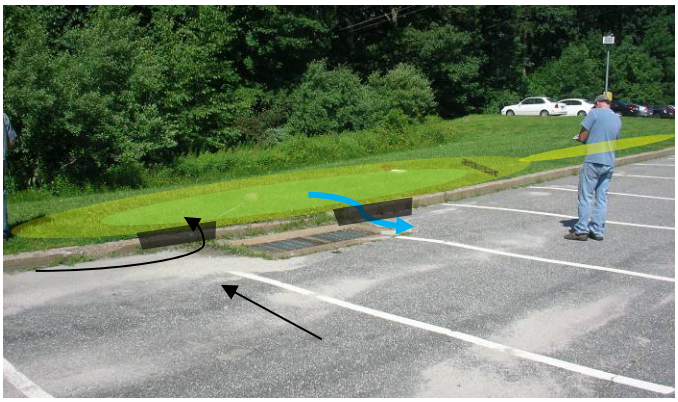


Figure 3. Remove curb along sides of double inlets to allow surface runoff into bioretention area through paved flume with riprap channel. Primary overflow where ponded water "backs up" into existing inlet (blue arrow).

Emergency spillways provided (into wooded area). Use shallow swales along full length of parking lot to convey flow to bioretention. Use riprap channels to convey runoff from curb cuts/paved flume to small pretreatment forebays and to dissipate the energy and velocity of runoff. Existing inlet acts as primary overflow and emergency spillway provided for overflow into wooded slope. The bioretention areas should have a filter depth of 24 inches and provide 6-9 inches of ponding depth. Due to the compacted nature of the soils, include an underdrain that ties back into the existing drains.

Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections and project details. These initial plans will require field survey and more information on drainage pipes, utilities, and soils (among other things) before going to construction plans.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing calculations for Site B5		
Parameter	**Value**	
	B5a	B5b
Drainage Area, A (acres)	1.5	0.6
Imperviousness, I (%)	85	77
Volumetric Runoff Coefficient, Rv	0.82	0.74
Rainfall Depth, P (in)	1	1
Water Quality Volume, WQv (cf)	4591	1740
Depth of the Filter Bed, d (ft)	2.50	2.50
Hydraulic Conductivity, k (ft/day)	1	1
Max. Ponding Depth, hmax (in)	9	9
Average Ponding Depth, h (ft)	0.375	0.375
Drawdown Time, t (days)	2	2
Surface Area Required, Af (sq. ft)	1996	*757*
Surface Area Provided (sq ft)	1800	1500
Treatment Provided (% of 1")	90	100

Design Considerations

- A retrofit of the Y Lot would help reduce the volume ultimately discharging to Site B-3.
- Possible conflict with electric cables and existing light pole(s).
- Compare feasibility of various design alternatives for raising exiting inlet structures.
- Incorporate educational signage.

Maintenance

Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

Maintenance Activities	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow areas/forebays for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch.	Every 2 to 3 Years

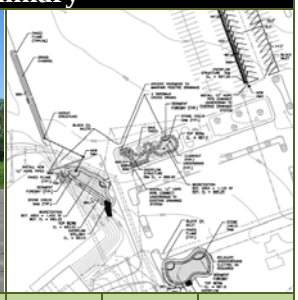
Cost Considerations

Added costs if new overflow inlets are required; relocation of electrical lighting a possibility.

Site B11: Parking Lot W

Managing Parking Lots with Bioretention

Project Summary



Parameter	B11a	B11b	B11c	B11d
Impervious Cover Treated (acres)	0.86	1.38	1.02	0.92
Runoff Reduction Volume (cu ft per 1" rain event)	1,553	1,864	1,932	1,916
TN Removal (lb/yr)	9.12	10.95	11.35	11.25
TP Removal (lb/yr)	1.06	1.27	1.32	1.31
TSS Removal (lb/yr)	229.5	275.4	285.5	283.1
Estimated Cost	$27k	$33k	$34k	$34k

Site Description

The proposed retrofit concepts are located in Parking Lot W in the northern portion of UConn campus near the reservoir and Greek Housing area. This large parking lot is showing signs of decay and is, reportedly, underused.

Existing Conditions

The upper northwest and eastern portions of the parking lot drain out of the watershed. The remaining portions of the lot (~ 6 acres) are divided into four separate catchments that drain to surface inlets. There are currently no stormwater practices treating the runoff. Soils at this site appear suitable for infiltration.

Proposed Concept

Concepts to use bioretention facilities to capture and treat runoff from the four drainage areas:

Area A: Block inlets and use curb cuts/sidewalk cross drains to direct runoff into forebay and bioretention area. Shape cell to avoid existing trees. Overflow to manage/treat drainage area of approximately 1 acre. Underdrain and outlet overflow back into existing stormdrain.

Area B: Remove pavement to install a 5 ft wide bioretention to manage/treat parking lot and upslope pervious area of approximately 2.6 acres. Restripe parking area, bioretention located in island between travel lanes as shown on sketch; no pretreatment, stone check dams.

Area C: Grass channel and/or forebay for pre-treatment flowing into bioretention along edge of lot. Convert existing inlet to manhole at low point, provide positive drainage to grass channel/forebay flowing into bioretention. Overflow via rip rap spillway back into existing drainage feature.

Area D: Block existing inlet and divert runoff to bioretention area via curb cuts/paved flume into forebay then into bioretention. Overflow ties back into existing drainage inlet. No underdrain required. May need to relocate existing electric lines.

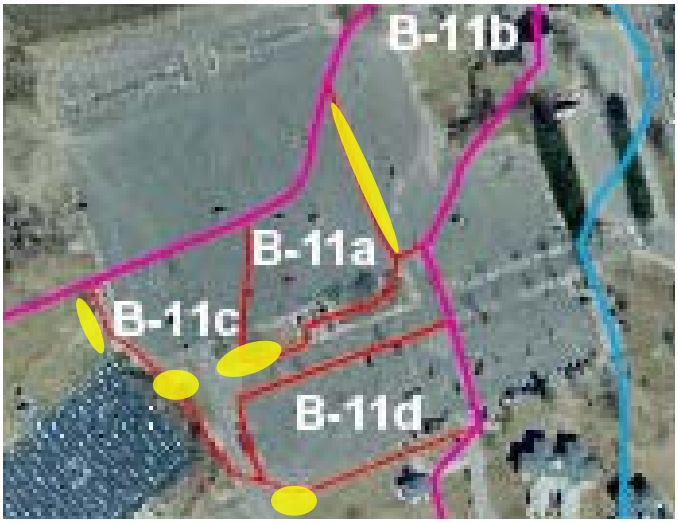


Figure 1. Location of proposed bioretention cells. Two portions of lot drain out of the Eagleville Brook watershed (outside of pink line).

Figure 2. Approximate location of proposed bioretention cells in parking lot. Restriping of lot will be required around landscape island bioretention to alter current traffic flow patterns. Loss of only four or five spaces anticipated.

Preliminary Concept Designs

25% concept designs for proposed retrofits can be found in attachment B, which includes preliminary plan views and project details. These initial plans will require field survey and more information on drainage pipes, utilities, and soils (among other things) before going to construction plans.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing calculations for Site B11				
Parameter	**Value**			
	A	B	C	D
Drainage Area, A (acres)	0.98	2.57	1.38	1.09
Imperviousness, I (%)	88	54	74	84
Volumetric Runoff Coefficient, Rv	0.84	0.53	0.72	0.81
Rainfall Depth , P (in)	1	1	1	1
Water Quality Volume, WQv (cf)	2972	4962	3598	3193
Depth of the Filter Bed, d (ft)	2.50	2.50	2.50	2.50
Hydraulic Conductivity, k (ft/day)	1	1	1	1
Max. Ponding Depth, hmax (in)	9	9	9	9
Average Ponding Depth, h (ft)	0.375	0.375	0.375	0.375
Drawdown Time, t (days)	2	2	2	2
Surface Area Required, Af (sq. ft)	1292	2157	1564	1388
Surface Area Provided (sq ft)	1125	1350	1400	2200
Treatment Provided (% of 1")	87	63	90	100

Design Considerations

- Existing water lines and drainage pipes at site A to be verified in order to finalize location of inlet and determine if culvert under access road is required.
- Try to protect existing trees during excavation.
- At Site B, the only location for bioretention is island constructed between travel lanes, most runoff will enter in the upper portion, so provide forebay in first cell, may require check dams to terrace facility. Raise existing inlets to act as overflow.
- Design and excavation of bioretention and inlet structures at site C to save large tree.
- Feasible and likely cost effective, though site B is undersized given contributing watershed.
- No significant loss of parking spaces, though lot will need to be restriped.

Maintenance

Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

Maintenance Activities	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch	Every 2 to 3 Years

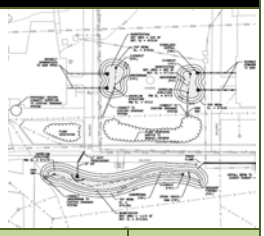
Other Considerations

It was reported that a stormwater master plan has been proposed that will divert stormwater from this area to Swan Lake, and ultimately out of the watershed.

Site C4/5: Education/Gentry Buildings and Sundial Garden

Integrating Stormwater and Landscape Management

Project Summary



Parameter	*C4/5-a*	*C4/5-d*	*C4/5-e*
Impervious Cover Treated (acres)	0.12	0.07	0.34
Runoff Reduction Volume (cu ft per 1" rain event)	162	101	474
TN Removal (lb/yr)	1.42	0.89	4.17
TP Removal (lb/yr)	0.16	0.1	0.48
TSS Removal (lb/yr)	35.73	22.25	104.98
Estimated Cost	$11,000	$3,000	$13,000

Site Description

The proposed retrofit concept is located on the UConn Campus at the Education and Gentry Buildings. These two buildings are mirrored in design, and are separated by the Sundial Garden quad area.

Existing Conditions

The roof leaders from both buildings are directly connected to the stormdrain system. The adjacent green space in the Sundial Garden is highly compacted. Across the walkway in the student center quad, the soils are somewhat compacted. Several areas of localized soil erosion were noted.

Proposed Concept

Several retrofit opportunities were identified at each building (Figure 1). The locations of these projects are shown in attachment B:

- C4/5 (a) – Direct the front roof leaders into raised stormwater planter beds.
- C4/5 (b) – Direct the two downspouts near the main building entrances into cisterns. Water from the cistern can be used to water the building landscaping.
- C4/5 (c) – Amend the soils to restore the pervious area in the Sundial Garden and plant trees and a vegetative buffer along the southwest edge of the garden to reduce runoff and soil erosion.
- C4/5 (d) – Divert the two downspouts above the building side entrance into a bioretention area in the Sundial Garden. These bioretention areas can be incorporated into additional landscaping plans for this Garden.
- C4/5 (e) – Construct a large linear bioretention area along the walkway. Divert the walkway and terrace runoff into the area using berms or trench drains.

Figure 1. (C4/5-a) Potential location for stormwater planter boxes. (C4/5-b) Potential location for a cistern. (C4/5-c/d) Compaction in the Sundial Garden area and the proposed location of soil amendments and bioretention. (C4/5-e) Proposed location of larger bioretention project.

Preliminary Concept Designs

25% concept designs for the proposed retrofits can be found in attachments B. Preliminary plan views and project details are included. These initial plans will need to be further refined as this project proceeds towards construction.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention areas was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing Calculations for Site C4 and C5			
Parameter	**Value**		
	C4/5-a*	C4/5-d*	C4/5-e
Drainage Area, A (acres)	0.12	0.07	0.47
Imperviousness, I (%)	100	100	72
Volumetric Runoff Coefficient, Rv	0.95	0.95	0.70
Rainfall Depth, P (in)	1	1	1
Water Quality Volume, WQv (cf)	403	251	1184
Depth of the Filter Bed, d (ft)	2.5	2.5	2.50
Hydraulic Conductivity, k (ft/day)	1	1	1
Max. Ponding Depth, hmax (in)	3	9	6
Average Ponding Depth, h (ft)	0.125	0.375	0.25
Drawdown Time, t (days)	1	2	2
Surface Area Required, Af (sq. ft)	384	113	538
Surface Area Provided (sq ft)	400	1000	1,215
Treatment Provided (% of 1")	100	100	100
*note, planters and sundial garden practices combined			

Design Considerations

- Site soils are compacted, so underdrains are needed in the bioretention and planter box designs.
- While utility constraints are expected to be minimal, detailed utility mapping should be obtained before completing the final project design.
- Construction of a new building being planned for a nearby site in the student center quad area may affect the project design for concept C4/5 (e). Therefore, the construction of project C4/5 (e) should not occur until after the new building is constructed.
- Projects (b) and (d) are good opportunities for student involvement and education. Students and faculty at Uconn can be involved in the final design and construction of this project.
- The Sasaki landscape architecture company has developed a landscaping plan for the Sundial Garden area. These plans can be incorporated with the proposed stormwater and soil amendment projects into a final design for this area.

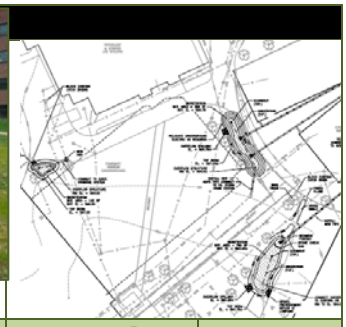
Maintenance

Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention/planter boxes areas are summarized in the table below.

Maintenance Activities for site C4/C5	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas, and make sure they are immediately stabilized.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash/debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch.	Every 2 to 3 Years

Site C17/C16: Chemistry Building Quad

Rooftop Disconnection with Bioretention



Parameter	C17a/b	C16
Impervious Cover Treated (acres)	0.51	0.28
Runoff Reduction Volume (cu ft per 1" rain event)	707	115
TN Removal (lb/yr)	6.23	3.46
TP Removal (lb/yr)	0.72	0.4
TSS Removal (lb/yr)	156.7	87.07
Estimated Cost	$18,600	$10,300

Site Description

The proposed concept is located on the UConn Campus in a quad area between the Chemistry Building and the Pharmacy/Biology Building. The quad is grassed and contains a few small trees, but otherwise lacks landscaping. Soils are extremely compacted, and several dirt and concrete pathways traverse the area. The perimeter is characterized by bare soils and sediment deposition.

Existing Conditions

Runoff from the Chemistry building rooftop is conveyed underground and into the stormdrain system via external roof drains. Yard drains located in the quad area capture surface runoff from the quad and adjacent impervious areas (paved pathways, driving lanes, and wide sidewalks). On the northwest corner of the quad, runoff from the Life Sciences parking lot is conveyed to an inlet located along the quad. Runoff from these areas is conveyed directly to Eagleville Brook, which is piped deep underneath the quad area, approximately 20-22' below grade.

Proposed Concept

Install three bioretention areas in the quad area to capture rooftop and impervious area runoff. Direct the external roof downspouts from the Chemistry Building to the proposed bioretention areas by

Figure 1. Drainage area (top); External roof drains and proposed retrofit locations for bioretention areas with forebays in the grassy quad area adjacent to the Chemistry Building (middle), location of C16 (bottom).

installing a new pipe to convey the roof runoff from a portion of the building.

Construct a forebay area at the pipe outlet to dissipate the energy and velocity of the runoff entering the bioretention areas. Runoff from the adjacent impervious areas can enter the bioretention areas via sheetflow. The bioretention areas should have a filter depth of 24 inches and provide 6-9 inches of ponding depth. Due to the compacted nature of the soils, an underdrain is needed for the design. The underdrain and overflow should tie into existing yard drains.

Preliminary Concept Designs

25% concept designs for the proposed retrofit can be found in attachments B. Preliminary plan views and project details are included. These initial plans will need to be further refined as this project proceeds towards construction.

Preliminary Hydrologic Calculations

Preliminary sizing of the bioretention area was completed based on guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing Calculations for Site C-17/16		
Parameter	**Value**	
	C17a/b*	C16
Drainage Area, A (acres)	0.55	0.32
Imperviousness, I (%)	92.8	88.7
Volumetric Runoff Coefficient, Rv	0.89	0.85
Rainfall Depth, P (in)	1	1
Water Quality Volume, WQv (cf)	1767	982
Depth of the Filter Bed, d (ft)	2.50	2.5
Hydraulic Conductivity, k (ft/day)	1	1
Max. Ponding Depth, hmax (in)	9	9
Average Ponding Depth, h (ft)	0.375	0.375
Drawdown Time, t (days)	2	2
Surface Area Required, Af (sq. ft)	768	427
Surface Area Provided (sq ft)	1145	500
Treatment Provided (% of 1")	100	29
*note two bioretention areas are combined		

Design Considerations

- There is a building below the quad which may limit the size and extent of concept.
- While utility constraints are expected to be minimal, detailed utility mapping should be obtained before completing the final project design. The main stormdrains are 20-22' below grade and may not constrain the project, however, there may be shallower connection pipes that will need to be avoided.
- This project presents an opportunity for students and faculty at Uconn to be involved in the final design and construction of this project.

Maintenance

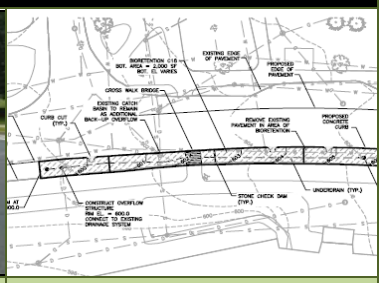
Maintenance is important for bioretention areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

Maintenance Activities for Bioretention	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and immediately stabilized with grass cover.	As Needed (following construction)
• Prune and weed bioretention area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect bioretention area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch	Every 2 to 3 Years

Site C-18: North Eagleville Road

Integrating Stormwater, Landscaping, and Traffic Calming Measures

Project Summary



Parameter	C18
Impervious Cover Treated (acres)	1.25 acres
Runoff Reduction Volume (cu ft per 1" rain event)	881
TN Removal (lb/yr)	7.76
TP Removal (lb/yr)	0.9
TSS Removal (lb/yr)	195.25
Estimated Cost	$23,100

Site Description

The proposed retrofit concept is located on the UConn Campus along North Eagleville Road. This road runs through campus and separates Central Campus and Swan Lake from North Campus, several student housing residences, and privately owned churches (Figure 1).

Existing Conditions

Runoff from the crowned roadway drains to catch basins that are located along the edge of the street. The existing roadway is very wide, up to 44 feet from curb to curb in some locations. The University has expressed concern over a dangerous situation with high pedestrian and vehicle traffic along this roadway, and has taken action by painting no driving areas along the edge of the roadway in an attempt to slow car traffic. Some of these areas are used in the project design.

Proposed Concept

In select areas along the edge of the roadway, remove impervious cover and install street planter areas. These areas should contain a perimeter 6" curb and curb cuts installed to direct the roadway runoff into these areas. The planter areas should provide 6 inches of ponding depth as measured from the roadway surface to the low point in the filter surface. The filter media depth should be 6-12 inches deep. An underdrain is needed for the design of each street filter. The underdrain and overflow should tie into the stormwater network.

Figure 1. Drainage area (top) and proposed location(s) of street filter designs along North Eagleville Road.

Figure 2. Remove pavement along existing road shoulder to edge of existing curb (top). Example street planters with curb cuts from Portland, OR (bottom).

Preliminary Concept Designs

A 25% concept design for the proposed retrofit can be found in attachment B, which includes preliminary plan views, cross sections and project details. These initial plans will require field survey and more information on drainage pipes, utilities (among other things) before going to construction plans.

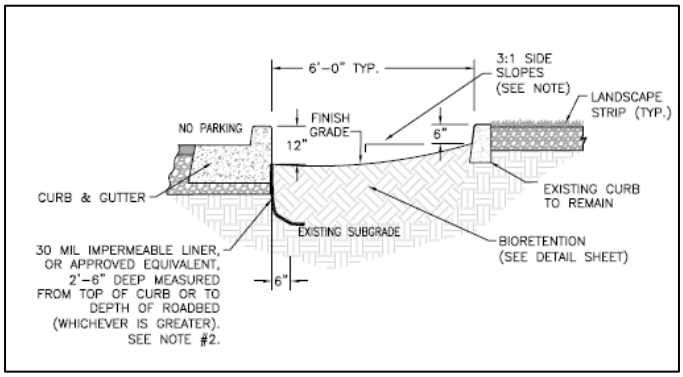


Figure 3. Sample cross section detail from Appendix B.

Preliminary Hydrologic Calculations

Preliminary sizing of the street filter area was completed based on bioretention guidance provided in the *2004 Connecticut Stormwater Quality Manual*. These computations are summarized in the table below.

Sizing Calculations for Site C-18	
Parameter	**Value**
Drainage Area, A (acres)	1.25
Imperviousness, I (%)	100
Volumetric Runoff Coefficient, Rv	0.95
Rainfall Depth, P (in)	1
Water Quality Volume, WQv (cf)	4,300
Depth of the Filter Bed, d (ft)	2.50
Hydraulic Conductivity, k (ft/day)	1
Max. Ponding Depth, hmax (in)	6
Average Ponding Depth, h (ft)	0.25
Drawdown Time, t (days)	1
Surface Area Required, Af (sq. ft)	*3909*
Surface Area Provided (sq ft)	2,000
Treatment Provided (% of 1")	51

Design Considerations

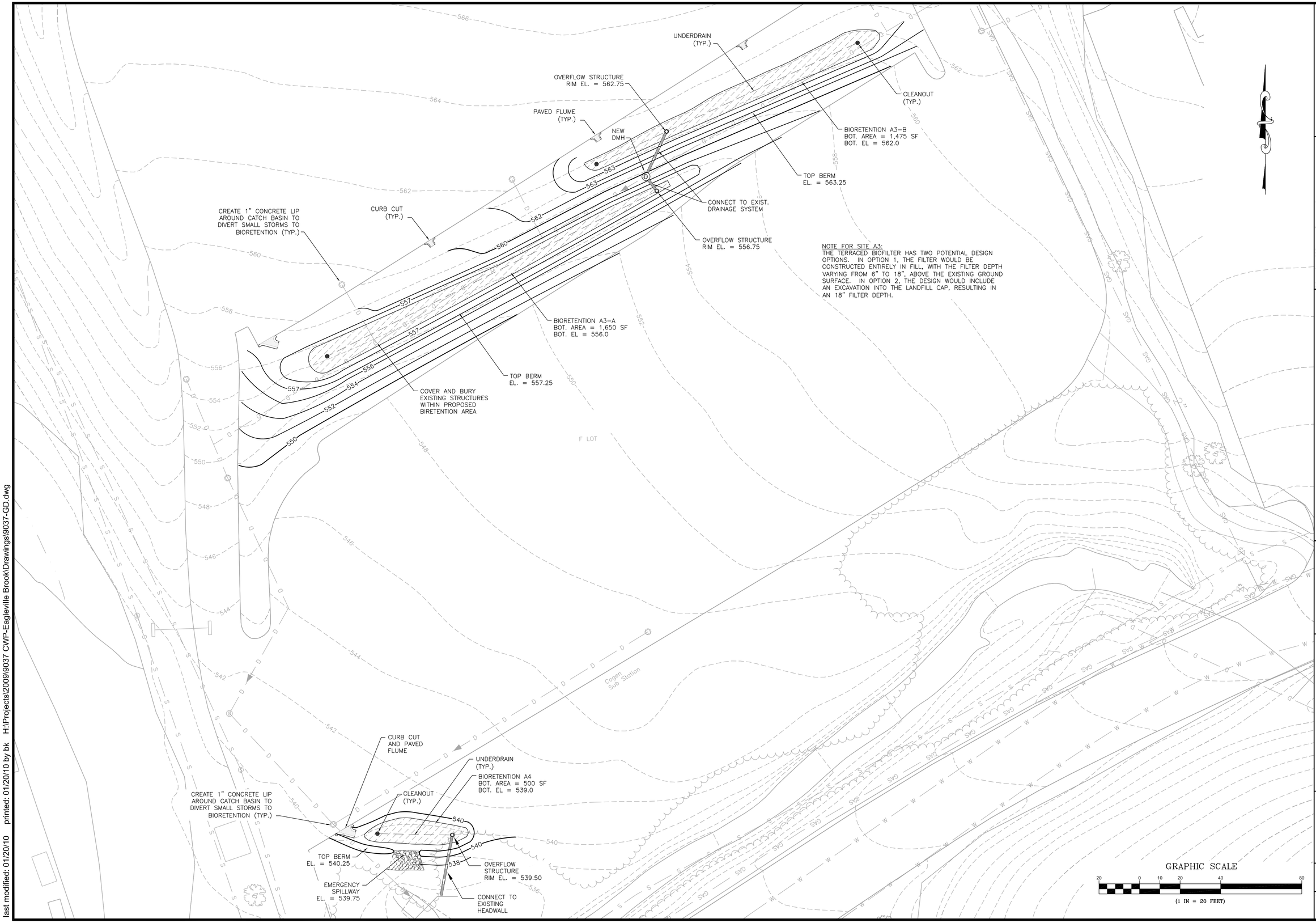
- While utility constraints are expected to be minimal, detailed utility mapping should be obtained before completing the final project design.
- At cross walk areas, pedestrian bridges can be incorporated into the design so that people can cross over the street filter area.
- Current concept design sets a 24' road width, uniform along Eagleville rd. Wider road (and bike lanes) can be obtained by either narrowing the filters themselves or expanding into the sidewalk.
- Designs can serve to calm traffic along the roadway. This project should be integrated with University efforts to calm traffic along the road and also with the Sasaki Landscape Plan.

Maintenance

Maintenance is important for these street filter areas, particularly in terms of ensuring that they continue to provide measurable stormwater management benefits over time. The routine maintenance activities typically associated with bioretention areas are summarized in the table below.

Maintenance Activities for site C-18	
Activity Schedule	**Frequency**
• Water once a week during the first two months, and then as needed and depending on rainfall to promote plant growth and survival. • For the first six months following construction, the site should be inspected at least twice after storm events that exceed a half-inch. Inspectors should look for bare or eroding areas in the contributing drainage area or around the street filter area, and make sure they are immediately stabilized. • Trim trees to prevent line of sight issues.	As Needed (following construction)
• Prune and weed the filter area to maintain appearance. • Remove accumulated trash and debris.	Regularly (Monthly)
• Inspect inflow area for sediment accumulation and remove any accumulated sediment or debris. • Inspect filter area for dead or dying vegetation. Plant replacement vegetation as needed.	Annually
• Remove and replace existing mulch	Every 2 to 3 Years

Attachment D. Design Drawings for High Priority Projects



NOTE FOR SITE A3:
THE TERRACED BIOFILTER HAS TWO POTENTIAL DESIGN OPTIONS. IN OPTION 1, THE FILTER WOULD BE CONSTRUCTED ENTIRELY IN FILL, WITH THE FILTER DEPTH VARYING FROM 6" TO 18", ABOVE THE EXISTING GROUND SURFACE. IN OPTION 2, THE DESIGN WOULD INCLUDE AN EXCAVATION INTO THE LANDFILL CAP, RESULTING IN AN 18" FILTER DEPTH.

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Designed By: KAC/DSC | Drawn By: ERK | Checked By: RAC

Date: 01/20/2010

Plan Set:
EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title:
25% DESIGN CONCEPT SITE A3-A4

Prepared For:
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Sheet Number:
1 of 13

LeDOYT FACILITIES MGMT
DEPT OPERATIONS

ARCHITECTURAL & ENGR.
SERVICES

TRAILER

ANNEX

AES

APPROX. LOCATION
EXIST. CATCHBASIN

GRATE
INFLOW

SANDFILTER
(7.5' X 80')

CONNECT OVERFLOW
TO EXISTING DRAINAGE
SYSTEM

PROPOSED
GREEN
ROOF

GRAPHIC SCALE
(1 IN = 20 FEET)
20 0 10 20 40 80

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Sheet Number: 2 of 13

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Plan Set:
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Plan Title:
25% DESIGN CONCEPT SITE A5

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BIORETENTION A8-A
BOT. AREA = 200 SF
BOT. EL = 629.00

12" DEEP TRENCHDRAIN (TYP.)

6" DIP

SEDIMENT FOREBAY (TYP.)

TOP BERM EL. = 630.25

CLEANOUT (TYP.)

UNDERDRAIN (TYP.)

OVERFLOW STRUCTURE RIM EL. = 629.75 CONNECT TO EXISTING DRAINAGE SYSTEM

RAIN GARDEN A8-B
BOT. AREA = 120 SF
BOT. EL = 620.00

12" DEEP TRENCHDRAIN (TYP.)

SAVE TREE

6" DIP (TYP.)

OVERFLOW SPILLWAY EL. = 620.75

TOP BERM EL. = 621.25

AMENDED SOILS AND LANDSCAPING (TYP.)

RAIN GARDEN A8-B
BOT. AREA = 110 SF
BOT. EL = 620.00

TOP BERM EL. = 621.25

OVERFLOW SPILLWAY EL. = 620.75

12" DEEP TRENCHDRAIN

SAVE TREE

BIORETENTION A8-C
BOT. AREA = 400 SF
BOT. EL = 611.00

6" DIP

SEDIMENT FOREBAY

CLEANOUT (TYP.)

UNDERDRAIN (TYP.)

TOP BERM EL. = 612.50

OVERFLOW STRUCTURE RIM EL. = 611.75 CONNECT TO EXISTING DRAINAGE SYSTEM

EXISTING EDGE OF PAVEMENT

EXIST. EDGE OF PAVEMENT

AMENDED SOILS AND LANDSCAPING (TYP.)

PROPOSED EDGE OF PAVEMENT

EXISTING EDGE OF PAVEMENT

GRAPHIC SCALE
(1 IN = 20 FEET)
20 0 10 20 40 80

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Sheet Number: 3 of 13

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Plan Set:
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Plan Title:
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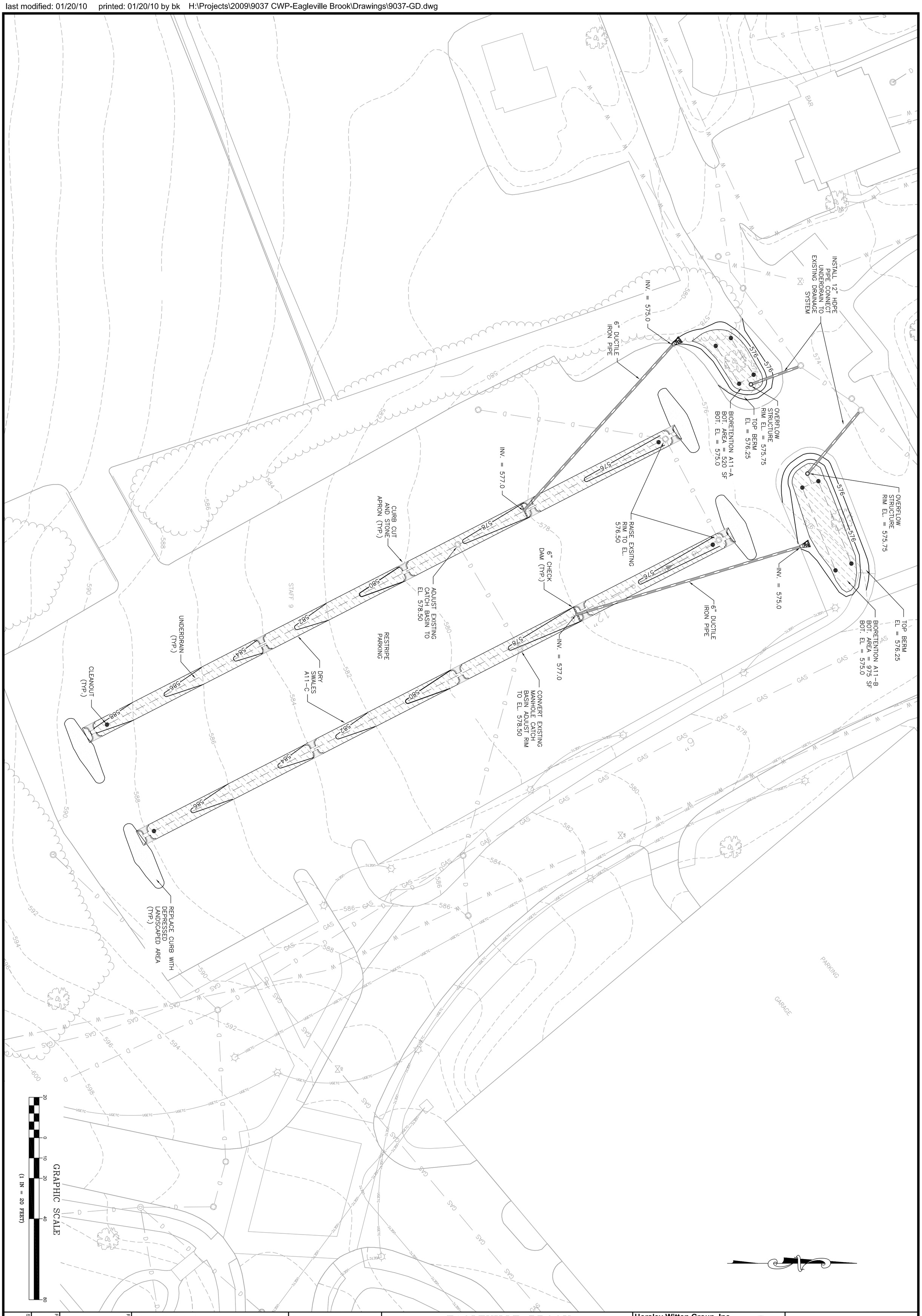

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Plan Set:
EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title:
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Project Number: 9037

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Plan Set:
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Plan Title:
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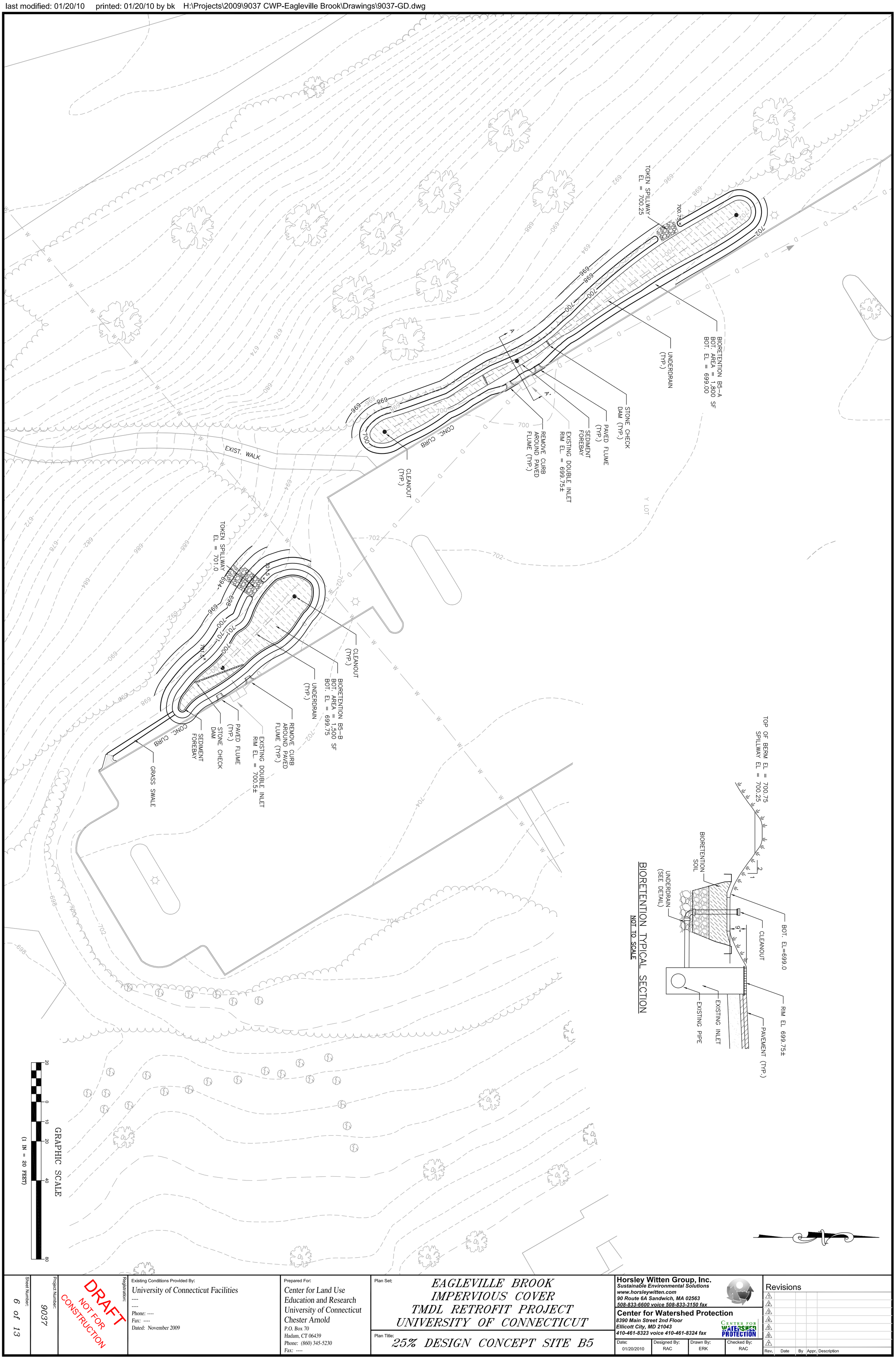

BIORETENTION TYPICAL SECTION

NOT TO SCALE

Sheet Number: 6 of 13

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Plan Set:
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APPROX. LOCATION EX. DRAINAGE STRUCTURE
CONNECT TO EXISTING DRAINAGE SYSTEM
CLEANOUT (TYP.)
UNDERDRAIN (TYP.)
TERRACED PLANTER BOXES
PROPOSED CISTERN CONNECT OVERFLOW TO EXSITING DRAINAGE SYSTEM
RIM EL. = 614.75
OVERFLOW STRUCTURE
NEW DMH
REDIRECT DOWNSPOUTS TO NEW PIPES
PLANT VEGETATION
6" DIP
12" DEEP TRENCHDRAIN
CONNECT UNDERDRAIN TO EXISTING DRAINAGE SYSTEM
BIORETENTION C4-E
BOT. AREA = 1,215 SF
BOT. EL = 614.25±
TOP BERM EL. = 615.25±
UNDERDRAIN (TYP.)
CLEANOUT (TYP.)
STONE CHECK DAM (TYP.)
PAVED FLUME
SEDIMENT FOREBAY (TYP.)
CONNECT TO EXISTING DRAINAGE SYSTEM
OVERFLOW STRUCTURE
RIM EL. = 615.5
PLANT VEGETATED BUFFER TO REDUCE EROSION
BIORETENTION C4-D
BOT. AREA = 500 SF
BOT. EL = 617.0±
TOP BERM EL. = 618.0±
BIORETENTION C5-D
BOT AREA = 500 SF
BOT. EL = 615.0±
STABALIZED OUTFALL (TYP.)
INSTALL BERM TO CONVEY RUNOFF
PROPOSED CISTERN CONNECT OVERFLOW TO EXSITING DRAINAGE SYSTEM
GENTRY BUILDING
GAR
WILLIAM BRENTON MUSEUM OF ART
LATIN - AM. CENTER
CENTER FOR UNDERGRADUATE EDUCATION
WALKWAY
SUNDIAL
EXISTING CULVERT

GRAPHIC SCALE
(1 IN = 20 FEET)
20 0 10 20 40 80

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Sheet Number: 8 of 13

Project Number: 9037

Registration:

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Plan Set:
EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title:
25% DESIGN CONCEPT SITE C4-C5

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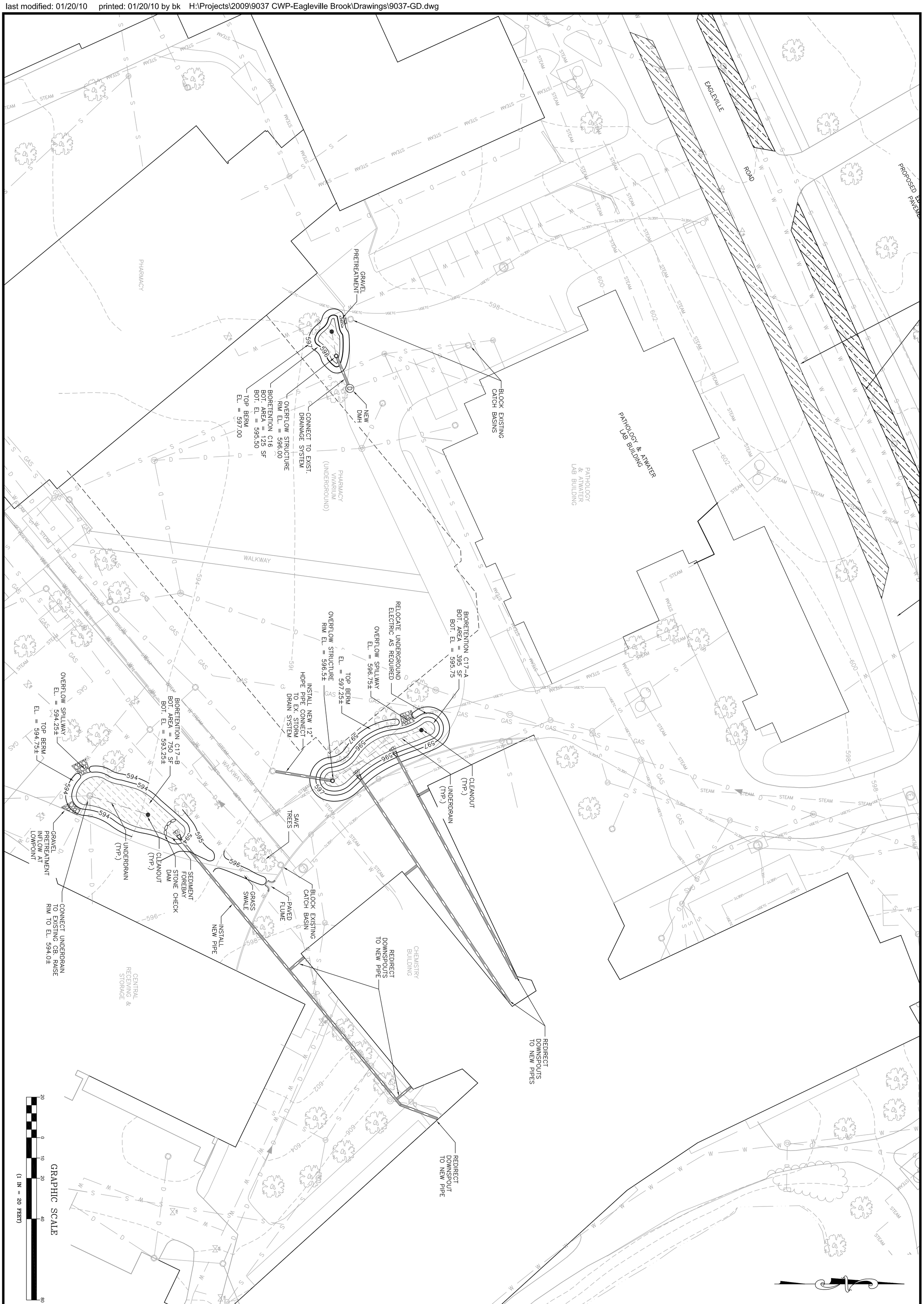

Sheet Number: 9 of 13

Project Number: 9037

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Plan Set:
EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title:
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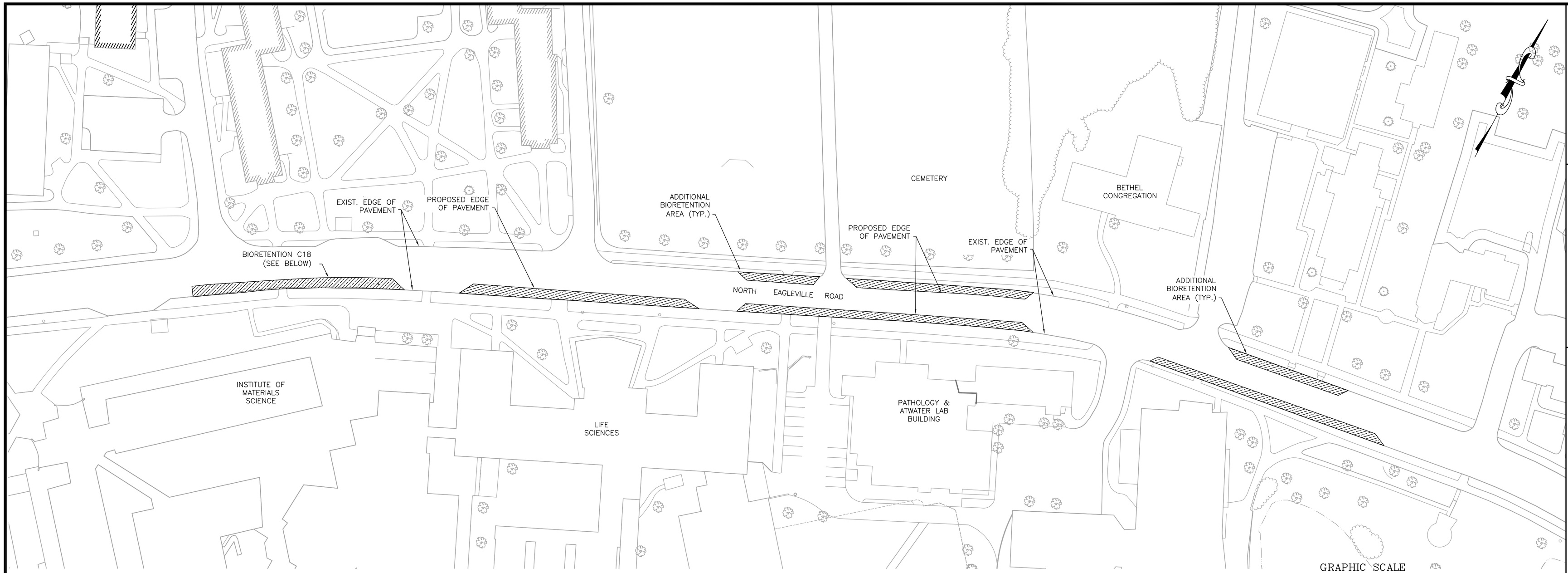

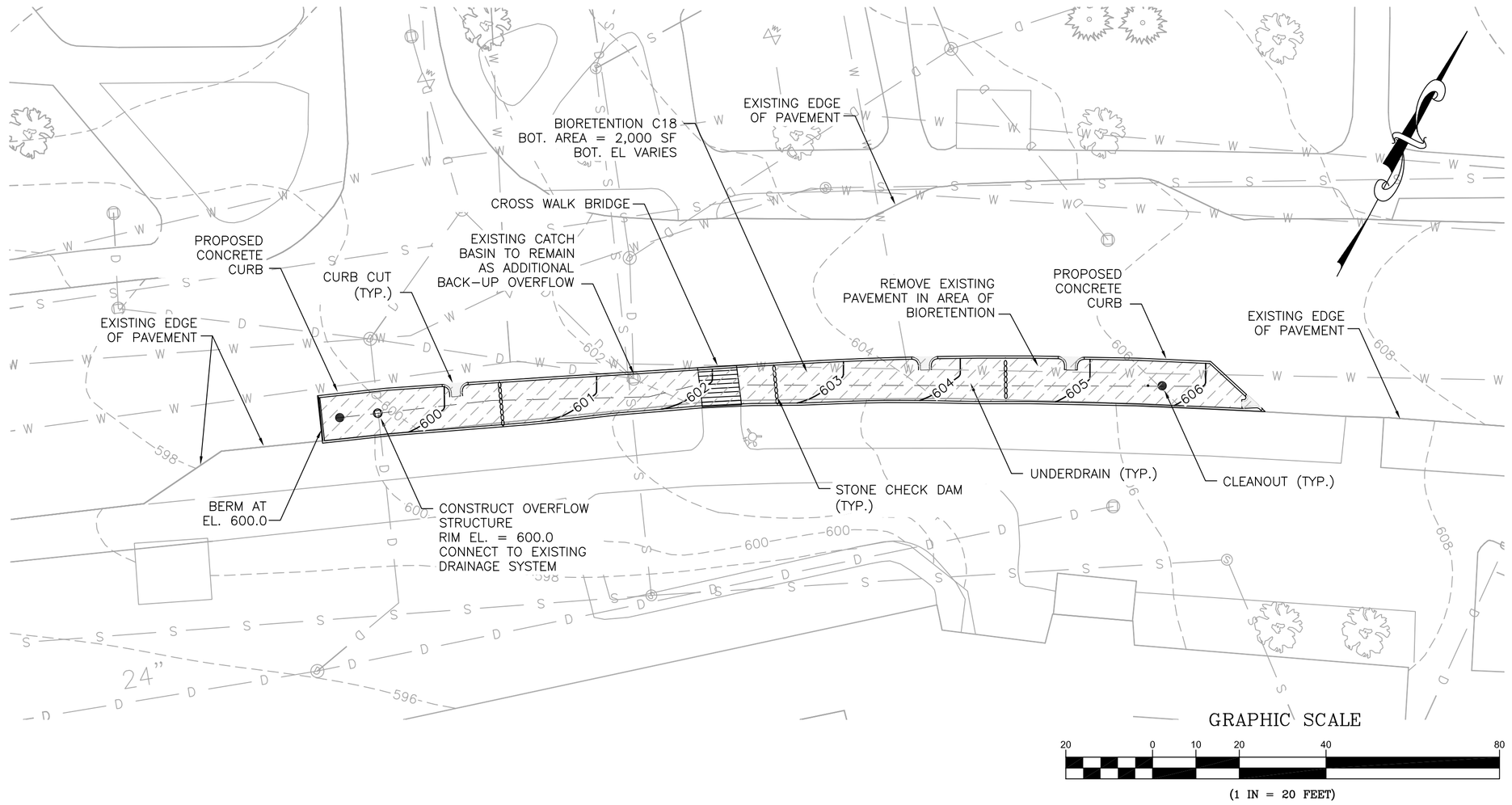

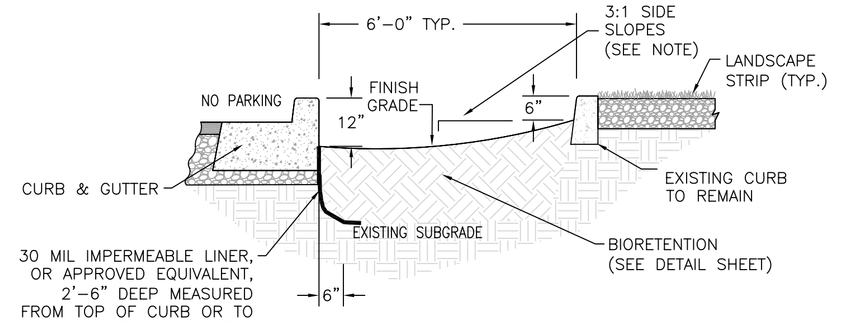

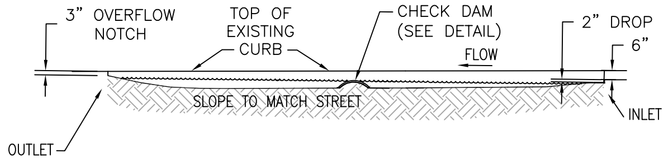

NOTES:
1. IF STORMWATER CURB EXTENSION IS CONSTRUCTED NEXT TO AN EXISTING SIDEWALK, SOIL ELEVATION MUST BE BROUGHT TO TOP OF CURB AND SLOPE AWAY FROM CURB AT 4:1 SLOPE.
2. LINER REQUIRED WHERE FACE OF NEW CURB IS <2FT FROM ADJACENT WATER LINE OR ON HIGHER STREET CLASSIFICATIONS. LINER MAY BE REQUIRED ON LOCAL STREETS WITH TRANSIT ROUTES, HIGHER TRAFFIC VOLUMES, OR WHEN FACILITY IS ADJACENT TO TRAVEL LANE, AT THE DISCRETION OF THE ENGINEER.

CURB EXTENSION SECTION
NOT TO SCALE

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EAGLEVILLE BROOK
IMPERVIOUS COVER
TMDL RETROFIT PROJECT
UNIVERSITY OF CONNECTICUT

Plan Set: *25% DESIGN CONCEPT SITE C18*

Plan Title:

Prepared For:
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Existing Conditions Provided By:
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CONSTRUCTION SPECIFICATIONS FOR BIORETENTION SYSTEMS

1. MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE 1.

Parameter	Specification	Size	Notes
Planting Soil Filter Media	Sand 85-88% Silt 8-12% Clay < 2% Organic Matter 5-5%	N/A	USDA soil types loamy sand or sandy loam. The organic matter shall be well aged (6-12 months), well aerated, leaf compost or approved equivalent. See notes below.
Mulch	shredded hardwood	N/A	Aged 6 months, minimum. Finely shredded softwood will be considered by Engineer. See notes below.
Pea Gravel Layer	2 to 4 inch layer of washed stone	3/8 inch	For use between the filter media and the underdrain gravel.
Filter Fabric	Mirafi 140N, Geotex 351 or approved equivalent.	N/A	Non-woven geotextile fabric w/ flow rate of > 110 gallons/minutes/square
Erosion Control Blanket	Bionet S150BN or approved	N/A	Short term biodegradable erosion
Gravel Layer (underdrain)	AASHTO M-43	0.375" to 0.75"	None
Underdrain Piping	ASTM D 1785 or AASHTO M-278	4 inch perforated schedule 40 PVC	3/8" perf. @ 6" on center, 4 holes per row. T's and Y's as needed depending on underdrain
Underdrain Cleanout	Non-perforated PVC pipe, PVC elbow, cap, and all associated fittings	4 inch	None

2. PLANTING SOIL
THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHOULD BE FREE OF NOXIOUS WEEDS.

THE PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:

PH RANGE:	5.2 – 7.0
MAGNESIUM:	35 LB/ACRE
PHOSPHOROUS:	75 LB/ACRE
POTASSIUM:	85 LB/ACRE
SOLUBLE SALTS:	NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHOULD HAVE A MINIMUM OF ONE TEST. EACH TEST SHOULD CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE'S STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHOULD BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TEST RESULTS SHOULD COME FROM THE SAME TESTING FACILITY. THE TESTING RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. MULCH LAYER SPECIFICATIONS
SHREDDED, AGED, HARDWOOD MULCH IS THE PREFERRED ACCEPTED MULCH TO PREVENT FLOATING DURING STORM EVENTS. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE TYPICALLY NOT ACCEPTABLE. A FINELY SHREDDED, WELL AGED, ORGANIC DARK PINE MULCH MAY BE ACCEPTABLE ON A CASE BY CASE BASIS. THE CONTRACTOR MUST SUBMIT TO THE ENGINEER A SAMPLE OF MULCH (1–GALLON MIN.) FOR INSPECTION PRIOR TO MULCH DELIVERY TO THE SITE.

MIX APPROXIMATELY HALF OF THE SPECIFIED MULCH LAYER INTO THE PLANTING SOIL TO A DEPTH OF APPROXIMATELY 2 INCHES TO HELP FOSTER A HIGHLY ORGANIC SURFACE LAYER.

4. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREA IS EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND STORAGE VOLUMES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12–INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

5. PLANT INSTALLATION
ROOT STOCK OF THE PLANT MATERIAL SHOULD BE KEPT MOIST DURING TRANSPORT AND ON–SITE STORAGE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHOULD BE BRACED USING 2" X 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHOULD BE PLANTED FOLLOWING THE NON–GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE PLANTING SOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF COMPOST OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1,000 SQUARE FEET.

THE BIORETENTION SIDE SLOPES SHALL BE STABILZED PER THE DETAILS AND SEEDED WITH NEW ENGLAND EROSION CONTROL/RESTORATION MIX FROM NEW ENGLAND WETLAND PLANTS, INC. (www.newp.com or 413–548–8000) OR APPROVED EQUIVALENT.

6. UNDERDRAINS
GRAVEL SHALL BE PLACED AROUND THE UNDERDRAIN PIPE AS SHOWN IN THE DETAILS. OBSERVATION WELLS AND/OR CLEAN–OUT PIPES MUST BE PROVIDED (SEE PLANS FOR LOCATION).

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHOULD BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.4%. OBSERVATION WELLS AND/OR CLEAN–OUT PIPES MUST BE PROVIDED (SEE PLANS FOR LOCATION).

7. MISCELLANEOUS
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED, AND SHALL REMAIN OFFLINE AND INOPERATIONAL UNTIL ALL VEGETATION IS STABILIZED.

BIORETENTION CONSTRUCTION SEQUENCE AND REQUIRED INSPECTIONS

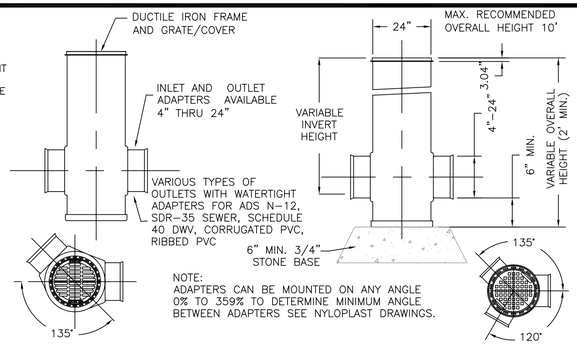
1. PRECONSTRUCTION MEETING.
2. INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES.
3. PRIOR TO CONSTRUCTION THE INFILTRATION BASIN AREA SHOULD BE ROPED OR FENCED OFF TO PREVENT CONSTRUCTION ACTIVITIES OR VEHICULAR TRAFFIC FROM OCCURRING IN THE AREA. CONSTRUCTION EQUIPMENT SHALL NOT BE ALLOWED TO DRIVE ACROSS OR BE STORED IN THE AREA INTENDED TO SERVE AS THE INFILTRATION BASIN (1).
4. CLEAR/GRUB PROPOSED DISTURBED AREA.
5. ROUGH GRADE BIORETENTION AREA DURING GENERAL SITE GRADING.
4. INSTALL INFLOW DRAINAGE SYSTEM AS SHOWN IN DETAILS (PIPE, CHANNEL, ETC).
5. EXCAVATE BIORETENTION FACILITY(IES) TO WITHIN 1 FOOT OF UNDERDRAIN BOTTOM.
6. CREATE TEMPORARY SEDIMENT FOREBAY AT BIORETENTION INFLOW (OPTIONAL).
4. GRADE AND STABILIZE ALL CONTRIBUTORY DRAINAGE AREAS TO BIORETENTION FACILTY(IES).
5. EXCAVATE BIORETENTION FACILITY(IES) TO INVERT OF UNDERDRAIN SYSTEM AND INSTALL FILTER FABRIC ALONG EXCAVATION SIDE WALLS ONLY. MANDATORY INSPECTION REQUIRED SEE NOTE (3) BELOW.
6. INSTALL OVERFLOW OUTLET STRUCTURE PER DETAILS.
7. INSTALL UNDERDRAIN, UNDERDRAIN STONE, PERFORATED PIPE, AND FILTER FABRIC ON TOP OF UNDERDRAIN STONE ONLY. MANDATORY INSPECTION REQUIRED PRIOR TO COVERING THE UNDERDRAIN, SEE NOTE (3) BELOW.
8. INSTALL PEA GRAVEL LAYER AS SHOWN IN DETAILS.
9. BACKFILL WITH BIORETENTION PLANTING SOIL TO DESIGN GRADE (UN–COMPACTED) – SEE PLANTING SOIL SPECIFICATIONS. THE CONTRACTOR MUST SUBMIT A SOIL SAMPLE (1 GALLON) TO THE ENGINEER PRIOR TO SOIL DELIVERY TO THE SITE.
10. INSTALL MULCH LAYER AS SHOWN IN DETAILS AND MIX WITH PLANTING SOIL. THE CONTRACTOR MUST SUBMIT A MULCH SAMPLE (1 GALLON) TO THE ENGINEER PRIOR TO DELIVERY TO THE SITE.
11. INSTALL SILT FENCE ALONG THE BIORETENTION PERIMETER TO PREVENT SEDIMENT FROM WASHING INTO THE NEWLY PLANTED AREAS FROM DISTURBED AREAS AROUND THE FACILITY(IES).
12. STABILIZE ALL REMAINING DISTURBED AREAS AROUND FACILITY(IES) BY SEEDING, HYDROSEEDING AND/OR OTHER EROSION CONTROL METHODS AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS. MANDATORY INSPECTION REQUIRED SEE NOTE (3) BELOW.
13. INSTALL BIORETENTION PLANTS AS SHOWN IN PLANTING PLANS AND DETAILS. NO PLANTING SHOULD OCCUR BEFORE REMAINING DISTURBED AREAS AROUND THE FACILITY(IES) ARE STABILIZED. THE CONTRACTOR WILL BE REQUIRED TO REMOVE ANY SEDIMENT WHICH WASHES INTO THE BIORETENTION AREA DURING THE CONSTRUCTION AND PLANTING PHASES. IF SUITABLE VEGETATIVE COVER HAS NOT BEEN ESTABLISHED ALONG THE BIORETENTION SLOPES PRIOR TO PLANTING, A SILT FENCE PERIMETER SHALL BE INSTALLED AT THE TOE OF THE BIORETENTION SLOPES AND REMAIN IN PLACE UNTIL VEGETATIVE COVER IS ESTABLISHED.
14. INSTALL REMAINING MULCH AROUND PLANTS AS SHOWN IN DETAILS.
15. REMOVE REMAINING EROSION AND SEDIMENT CONTROLS ONLY AFTER SURROUNDING EXPOSED SOIL ARES HAVE BEEN PROPERLY STABILIZED.

NOTES:
(1.) SEE GENERAL CONSTRUCTION NOTES FOR OVERALL CONSTRUCTION SEQUENCE.
(2.) SEE GENERAL NOTES/SPECIFICATIONS/CONSTRUCTION DETAILS FOR DETAILED CONSTRUCTION REQUIREMENTS.
(3.) MANDATORY NOTIFICATION/APPROVAL OF THE PROJECT ENGINEER IS REQUIRED PRIOR TO PROCEEDING WITH NEXT STAGE. CALL THE ENGINEER (HORSLEY WITTEN GROUP, INC.) AT 508–833–6600 PRIOR TO 12:00 NOON THE PROCEEDING DAY TO ARRANGE FOR INSPECTION.

BIORETENTION SCHEDULE:

No.	Bottom Surface Area (sf)	Bottom Elev. (ft)	Top Berm Elev. (ft)	Rim Elev. (ft)
A3-A	1,650	556.00	557.25	556.75
A3-B	1,475	562.00	563.25	562.75
A4	500	539.00	539.75	539.50
A8-A	200	529.00	630.25	629.75
A8-Bwe	120	620.00	621.25	N/A
A8-Bea	110	620.00	621.25	N/A
A8-C	400	611.00	612.50	611.75
A11-A	520	575.00	576.25	575.75
A11-B	975	575.00	576.25	575.75
B5A	1,800	699.00	700.75	699.75
B5B	1,500	699.75	701.50	700.50

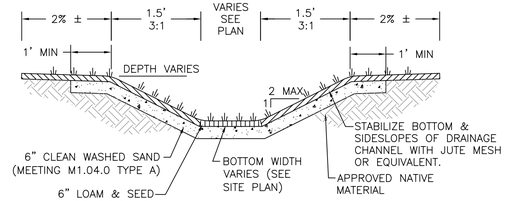
No.	Bottom Surface Area (sf)	Bottom Elev. (ft)	Top Berm Elev. (ft)	Rim Elev. (ft)
B11A	1,125	695.25	697.00	696.00
B11B	1,350	Varies	Varies	697.25
B11C	1,400	692.25	693.50	N/A
B11D	2,200	689.25	691.00	690.50
C4-D	500	617	618.00	617.50
C4-E	1,215	614.25	615.25	614.75
C5-D	500	615	616.00	615.50
C16	125	595.5	597.00	596.00
C17-A	395	595.75	597.25	596.50
C17-B	750	593.25	594.75	594.00
C18	2,000	Varies	Varies	600.00



NOTE:
ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0% TO 359% TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE NYLOPLAST DRAWINGS.

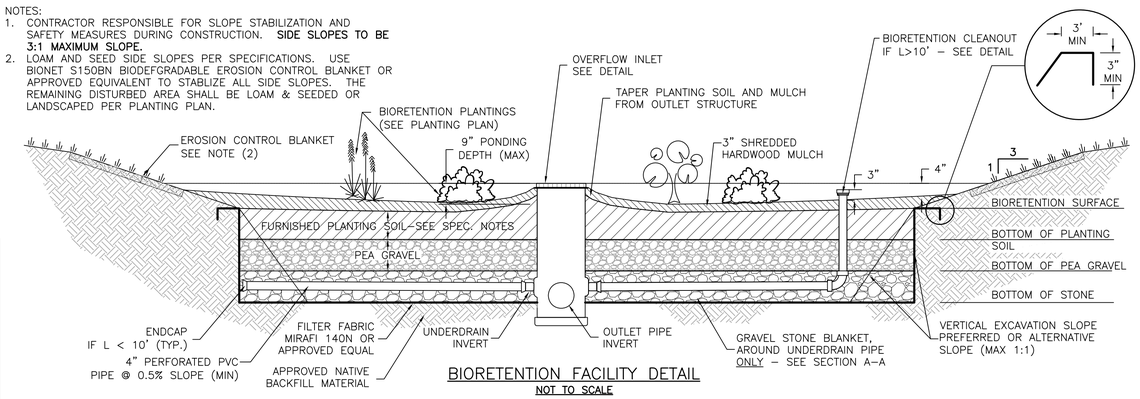
OVERFLOW INLET DETAIL
NOT TO SCALE
BY "NYLOPLAST" OR APPROVED EQUIVALENT

NOTE:
CONTRACTOR SHALL SHAPE CHANNEL IN A PARABOLIC MANNER.

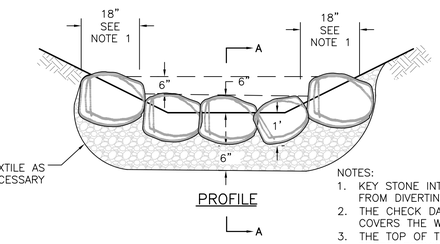


TYPICAL GRASS CHANNEL DETAIL
NOT TO SCALE

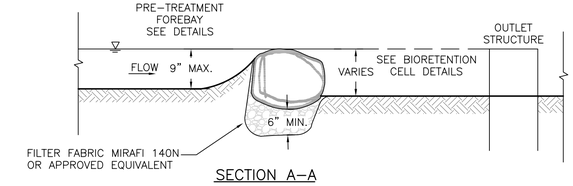
NOTES:
1. CONTRACTOR RESPONSIBLE FOR SLOPE STABILIZATION AND SAFETY MEASURES DURING CONSTRUCTION. **SIDE SLOPES TO BE 3:1 MAXIMUM SLOPE.**
2. LOAM AND SEED SIDE SLOPES PER SPECIFICATIONS. USE BIONET S150BN BIODEFGRADABLE EROSION CONTROL BLANKET OR APPROVED EQUIVALENT TO STABLIZE ALL SIDE SLOPES. THE REMAINING DISTURBED AREA SHALL BE LOAM & SEEDED OR LANDSCAPED PER PLANTING PLAN.



BIORETENTION FACILITY DETAIL
NOT TO SCALE



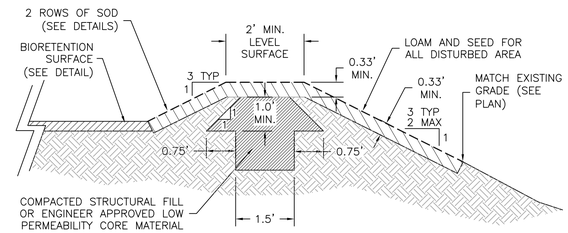
PROFILE



SECTION A–A

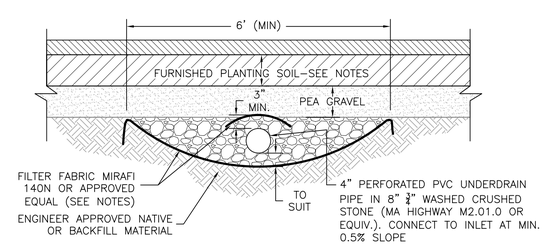
NOTES:
1. KEY STONE INTO THE BIORETENTION BANKS AND EXTEND INTO THE ABUTMENTS A MINIMUM OF 18" TO PREVENT FLOW FROM DIVERTING THE CHECK DAM.
2. THE CHECK DAM SHALL BE CONSTRUCTED OF 18"–24" STONE. THE STONE SHALL BE PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE BIORETENTION AND KEYED IN THE BIORETENTION BANKS.
3. THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THE CENTER IS APPROXIMATELY 6" LOWER THAN THE OUTER EDGES, FORMING A WEIR THAT WATER CAN FLOW ACROSS.
4. THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHALL NOT EXCEED 6".
5. THE UPSTREAM SIDE OF THE DAM SHALL BE LINED WITH APPROXIMATELY 1" OF 3/4" TO 11/2" CRUSHED AGGREGATE.

STONE CHECK FOR BIORETENTION TYPICAL DETAIL
NOT TO SCALE

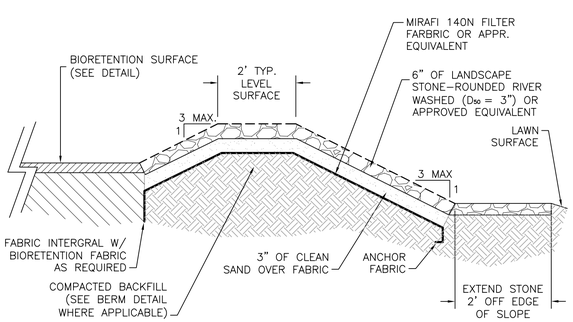


BIORETENTION BERM DETAIL
NOT TO SCALE

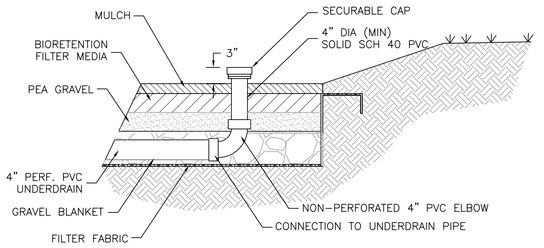
NOTES:
1. FILTER FABRIC ABOVE UNDERDRAIN SHALL EXTEND VERTICALLY 1–INCH± INTO THE SAND LAYER & HORIZONTALLY 1–FOOT OFF THE CENTER OF THE UNDERDRAIN PIPE.



BIORETENTION FACILITY SECTION A–A
NOT TO SCALE



BIORETENTION EMERGENCY OVERFLOW DETAIL
NOT TO SCALE



TYPICAL BIORETENTION CLEANOUT DETAIL
NOT TO SCALE

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com
90 Route 6A Sandwich, MA 02563
508-833-6600 voice 508-833-3150 fax
Center for Watershed Protection
8390 Main, Street 2nd Floor
Ellicott City, MD 21043
410-461-8323 voice 410-461-8324 fax

Revisions

Rev.	Date	By	Appr.	Description
1				
2				
3				
4				
5				
6				
7				

Drawn By: ERK | Checked By: RAC
Designed By: RAC | Date: 01/20/2010

Plan Set: EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title: DETAILS (1)

Prepared For:
Center for Land Use Education and Research
University of Connecticut
Chester Arnold
P.O. Box 70
Hallam, CT 06439
Phone: (860) 345-5230
Fax: ----

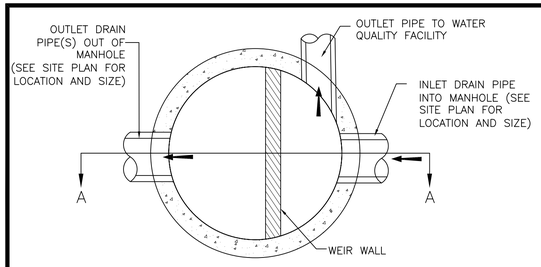
Existing Conditions Provided By:
University of Connecticut Facilities
---- ----
Phone: ----
Fax: ----
Dated: November 2009

Registration:
DRAFT NOT FOR CONSTRUCTION

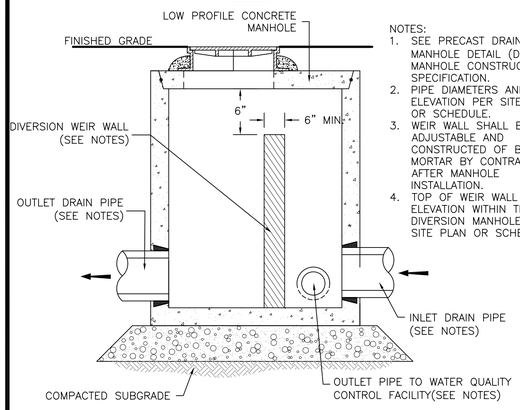
Project Number: 9037

Sheet Number: 11 of 13

last modified: 01/18/10 printed: 01/20/10 by bk H:\Projects\2009\9037 CWP-Eagleville Brook\Drawings\9037-DE.dwg



PLAN

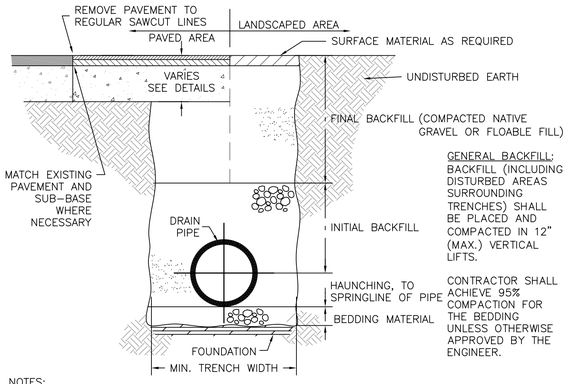


NOTES:
1. SEE PRECAST DRAIN MANHOLE DETAIL (DMH) FOR MANHOLE CONSTRUCTION SPECIFICATION.
2. PIPE DIAMETERS AND INVERT ELEVATION PER SITE PLAN OR SCHEDULE.
3. WEIR WALL SHALL BE ADJUSTABLE AND CONSTRUCTED OF BRICK AND MORTAR BY CONTRACTOR AFTER MANHOLE INSTALLATION.
4. TOP OF WEIR WALL ELEVATION WITHIN THE DIVERSION MANHOLE PER SITE PLAN OR SCHEDULE

SECTION A–A

DIVERSION DRAIN MANHOLE

NOT TO SCALE



GENERAL BACKFILL: BACKFILL (INCLUDING DISTURBED AREAS SURROUNDING TRENCHES) SHALL BE PLACED AND COMPACTED IN 12" (MAX.) VERTICAL LIFTS.

CONTRACTOR SHALL ACHIEVE 95% COMPACTION FOR THE BEDDING UNLESS OTHERWISE APPROVED BY THE ENGINEER.

NOTES:
1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY–FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING, HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL CONSIST OF CLEAN, HARD, PARTICLES OF GRAVEL MEETING THE FOLLOWING:

SIEVE SIZE	PERCENT PASSING
3/8"	85–95
NO. 4	5–15
NO. 8	0–2

UNLESS OTHERWISE APPROVED BY ENGINEER.

MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"–24" PIPE (100–600mm).

3. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL ø in (mm)	MIN. RECOMMENDED TRENCH WIDTH, in (mm)
8 (200)	25 (630)
10 (250)	28 (710)
12 (300)	31 (790)
15 (375)	34 (860)
18 (450)	39 (990)

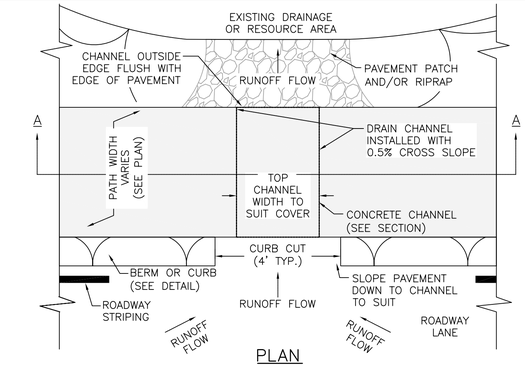
4. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE.

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H25 (FLEXIBLE PAVEMENT)	12 (300) *
H25 (RIGID PAVEMENT)	12 (300)
E80 RAILWAY HEAVY CONSTRUCTION	24 (610)
	48 (1220)

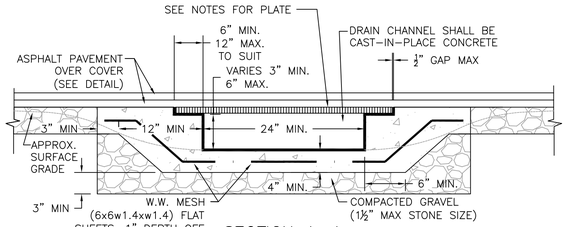
*TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT

TYPICAL HDPE DRAIN PIPE TRENCH DETAIL

NOT TO SCALE



PLAN

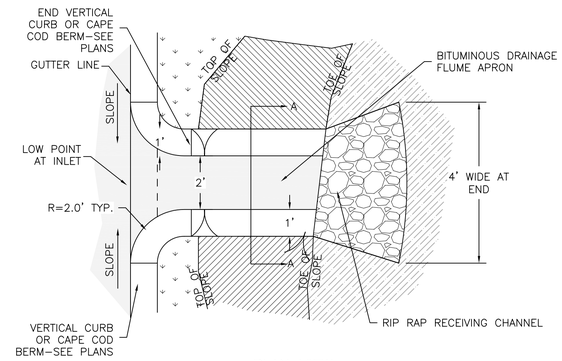


SECTION A–A

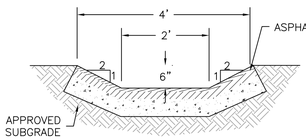
NOTES:
1. PLATE SHALL BE INSTALLED SO THE TOP EDGE IS FLUSH WITH THE ADJOINING CONCRETE CHANNEL EDGE. PLATE SHALL BE MADE OF STEEL OR CAST IRON AND SUITABLE FOR H–20 LOADING AS APPROVED BY THE ENGINEER. CEMENT CONCRETE SHALL BE READY MIX CLASS A AGGREGATE, 4000 PSI TYPE II CONCRETE.
2. TOP OF PLATE AND CONCRETE SHALL BE INSTALLED FLUSH WITH BOTTOM OF BINDER. PAVEMENT SHALL BE INSTALLED OVER PLATE AS SHOWN IN DETAIL.
3. ALL COMPONENTS SHALL BE CONSTRUCTED TO H20 LOADING STANDARDS.

TYPICAL SIDEWALK CROSS DRAIN DETAIL

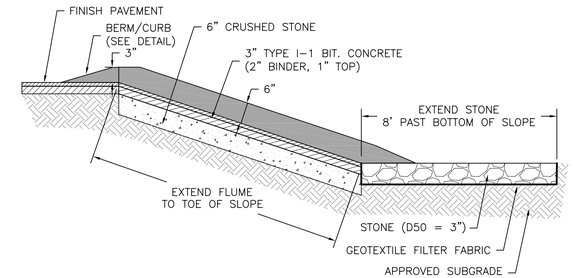
NOT TO SCALE



PLAN VIEW



SECTION A–A

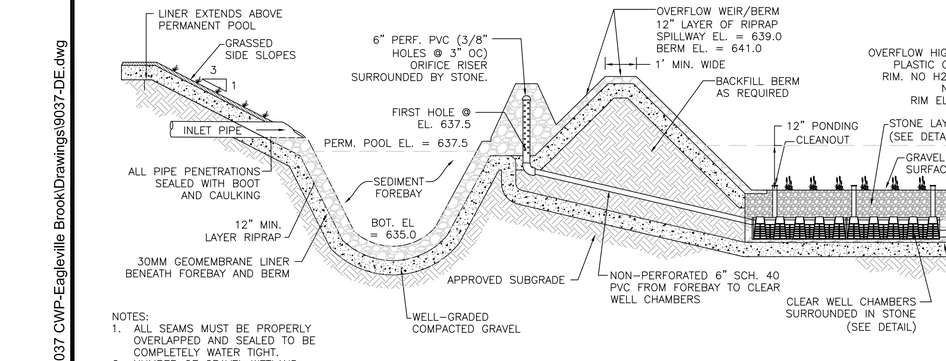


SECTION VIEW

NOTES:
1. THE PAVED FLUME SHOULD EXTEND DOWN TO THE TOE OF THE SLOPE.
2. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE SUBGRADE OF THE BE RIP RAP SHALL BE GRADED SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RIP RAP RECEIVING CHANNEL.
3. THE WIDTH OF THE END OF THE FLUME SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RIP RAP RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.
4. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
5. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
6. THE GEOTEXTILE FILTER FABRIC SHALL BE MIRAFI 140N OR EQUIVALENT

PAVED DRAINAGE FLUME

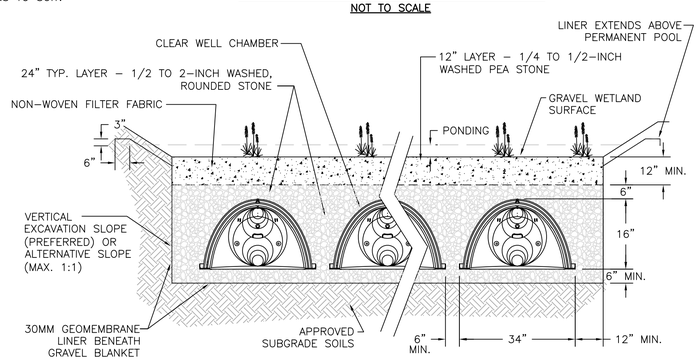
NOT TO SCALE



NOTES:
1. ALL SEAMS MUST BE PROPERLY OVERLAPPED AND SEALED TO BE COMPLETELY WATER TIGHT.
2. NUMBER OF GRAVEL WETLAND CELLS AND DIMENSIONS TO SUIT.

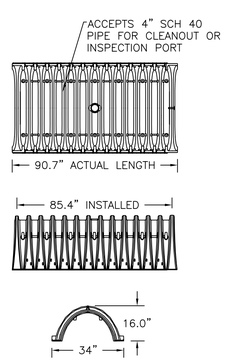
TYPICAL GRAVEL WETLAND SECTION

NOT TO SCALE

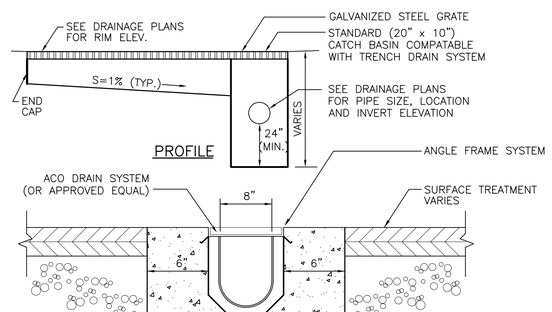


TYPICAL CLEAR WELL CHAMBER CROSS SECTION DETAIL

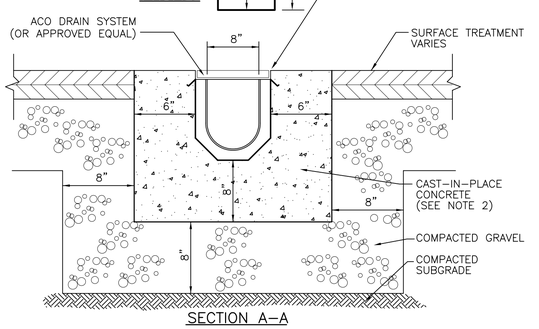
NOT TO SCALE



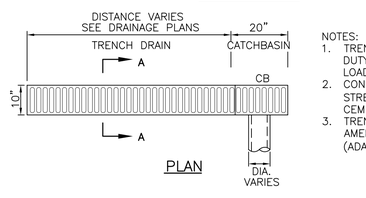
CHAMBER DETAILS



PROFILE



SECTION A–A

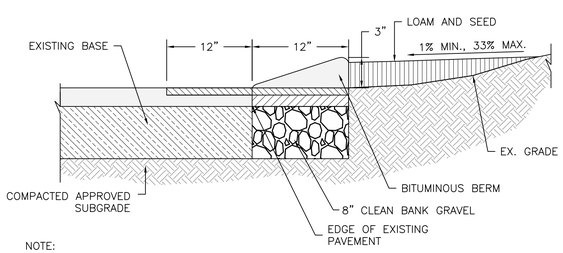


PLAN

NOTES:
1. TRENCH DRAIN SHALL BE HEAVY DUTY TYPE DESIGNED FOR HS–20 LOADING.
2. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
3. TRENCH DRAIN GRATE SHALL MEET AMERICANS WITH DISABILITY ACT (ADA) REGULATIONS.

TRENCH DRAIN (TYPE A)

NOT TO SCALE



NOTE:
1. PAVEMENT PATCH TO BE 3" TYPE I–1 BITUMINOUS CONCRETE (2" BINDER, 1" TOP). PRIOR TO INSTALLATION OF THE BITUMINOUS TOP COAT, SAWCUT AND MILL 1" INTO THE EXISTING PAVEMENT, AT A DISTANCE OF 1' FROM THE PAVEMENT EDGE. INSTALL TOP COAT OVER THE BINDER COARSE AND 1' MILLED SECTION.
2. BERM CONSTRUCTED OF BIT. CONC. WEARING SURFACE COURSE AS SHOWN
3. PROVIDE 1" CHAMFER OF EDGE ALONG BERM FACE
4. BERM TO BE CONSTRUCTED INTEGRAL WITH TOP PAVEMENT COURSE.
5. ADJUST BACKFILL GRADE (MAX. 2:1 SLOPE) TO MEET EXISTING GRADE.

BITUMINOUS BERM (EXISTING PAVEMENT)

NOT TO SCALE

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com
90 Route 6A Sandwich, MA 02563
508-833-6600 voice 508-833-3150 fax

Center for Watershed Protection
8390 Main, Street 2nd Floor
Ellicott City, MD 21043
410-461-8323 voice 410-461-8324 fax

Revisions

No.	Date	By	Appr.	Description
1				
2				
3				
4				
5				
6				

Drawn By: ERK
Checked By: RAC
Designed By: RAC
Date: 01/20/2010

Plan Set:

EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

DETAILS (2)

Plan Title:

Prepared For:
Center for Land Use Education and Research
University of Connecticut
Chester Arnold
P.O. Box 70
Hadam, CT 06439
Phone: (860) 345-5230
Fax: ----

Existing Conditions Provided By:
University of Connecticut Facilities

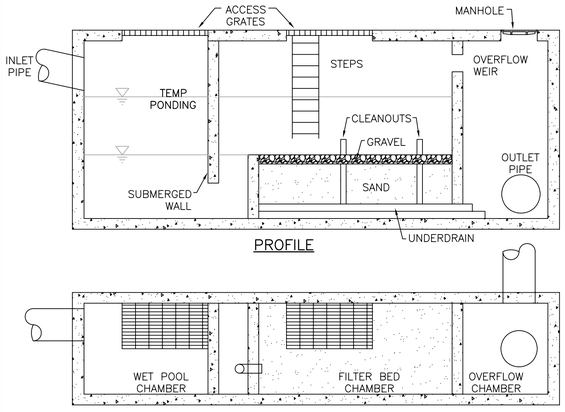
Phone: ----
Fax: ----
Dated: November 2009

Registration:

DRAFT NOT FOR CONSTRUCTION

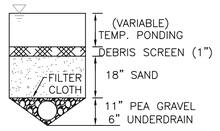
Project Number:
9037

Sheet Number:
12 of 13



PROFILE

PLAN VIEW

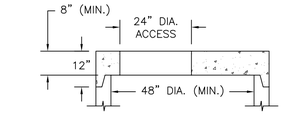


TYPICAL SECTION

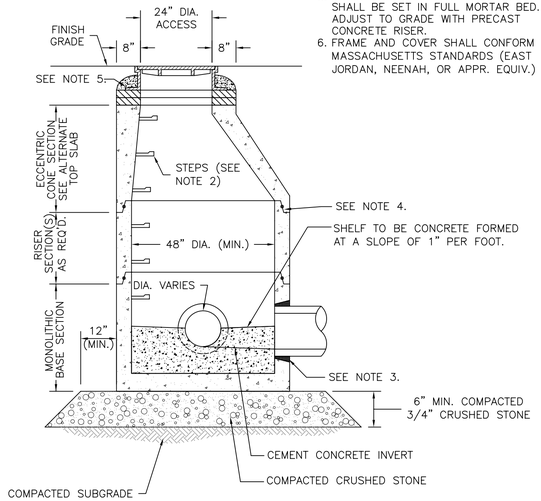
NOTES:
FRAME AND COVER TO CONFORM TO MASSACHUSETTS STANDARDS, (LEBARON FOUNDRY MODEL LK 110A, OR APPR. EQUIV.)

MATERIALS:
1. SAND – CONCRETE SAND (M1.01.0 TYPE A, AASHTO M6 OR EQUIV.)
2. STONE – 1/2 – 3/4" WASHED (M2.01.0 OR EQUIV.)
3. GEOTEXTILE – WOVEN DRAINAGE FABRIC (AMOCO 1198, MIRAFI–700XG OR EQUIV.)
4. PIPING – PVC (MIN. SDR 40)
5. GASKETS – COMPATIBLE W/ PVC SCHEDULE (A–LOK, STAR SEAL OR EQUIV.)
6. GRATES – CAST IRON STORM DRAIN (EAST JORDAN 6957 TYPE "M–2" OR EQUIV.)
7. SOLID COVERS – CAST IRON STORM DRAIN (EAST JORDAN 6957 TYPE "A" OR EQUIV.)
8. FRAMES – 1/4" STEEL ANGLE
9. CONCRETE – 4500 PSI AT 28 DAYS
10. MIN. REINFORCING – 2 MATS OF 6" x 6" W4/W4 WIRE MESH

UNDERGROUND SAND FILTER
NOT TO SCALE



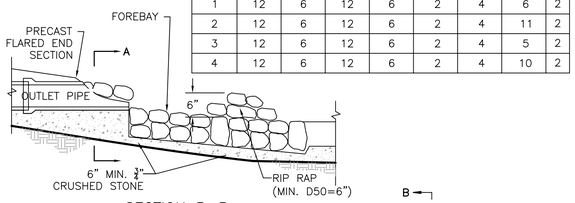
ALTERNATE TOP SLAB



NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR H–20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH PRECAST CONCRETE RISER.
6. FRAME AND COVER SHALL CONFORM TO MASSACHUSETTS STANDARDS (EAST JORDAN, NEENAH, OR APPR. EQUIV.)

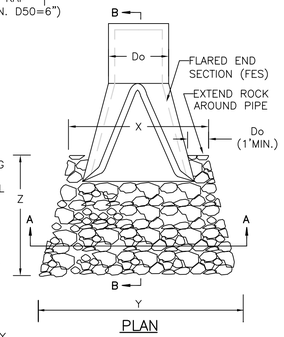
PRECAST DRAIN MANHOLE (DMH)
NOT TO SCALE

OUTLET	Do (IN)	d50	D (IN)	H (IN)	X (FT)	Y (FT)	Z (FT)	M
1	12	6	12	6	2	4	6	2
2	12	6	12	6	2	4	11	2
3	12	6	12	6	2	4	5	2
4	12	6	12	6	2	4	10	2

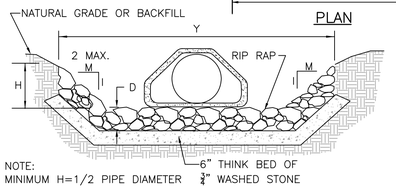


SECTION B–B

NOTES:
1. RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
2. THE AREA TO BE RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL.
3. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1
4. ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
5. HORIZONTAL ALIGNMENT OF THE APRON SHALL BE PER THE SITE PLAN.
6. ANY DISTURBED AREA FROM END OF APRON TO RECIEVING CHANNEL MUST BE STABILIZED.



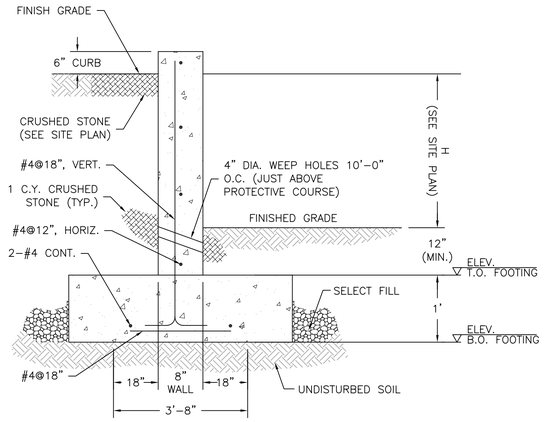
PLAN



NOTE:
MINIMUM H=1/2 PIPE DIAMETER

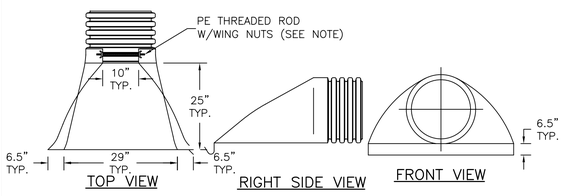
SECTION A–A

TYPICAL RIP RAP OUTFALL DETAIL
NOT TO SCALE



NOTE:
SEE MASS HIGHWAY CONSTRUCTION STANDARDS, DRAWING NUMBER 305.1.0 FOR COMPLETE CANTILEVEER RETAINING WALL SECTION.

CANTILEVER RETAINING WALL SECTION
NOT TO SCALE

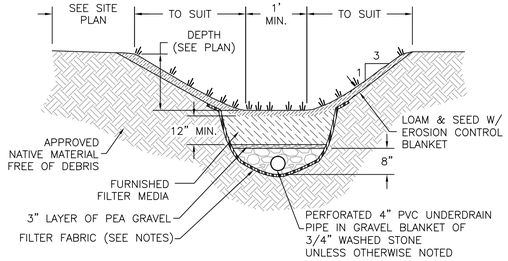


TOP VIEW RIGHT SIDE VIEW FRONT VIEW

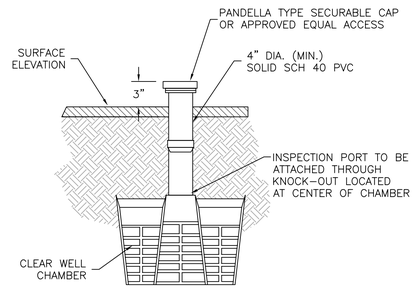
NOTES:
1. PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"–24". 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL DIMENSIONS ARE NOMINAL
3. DRAIN PIPES LESS THAN 12" IN DIAMETER SHALL BE SAWCUT TO MATCH SLOPE.
4. DETAIL PROVIDED BY ADVANCED DRAINAGE SYSTEMS, INC.

TYPICAL FLARED END SECTION
NOT TO SCALE

NOTE:
1. FILTER FABRIC SHALL BE MIRAFI 140N OR EQUAL.
2. EROSION CONTROL BLANKET SHALL BE JUTE MESH OR APPROVED EQUIVALENT.
3. SEE DRY SWALE SPECS FOR FILTER MEDIA.

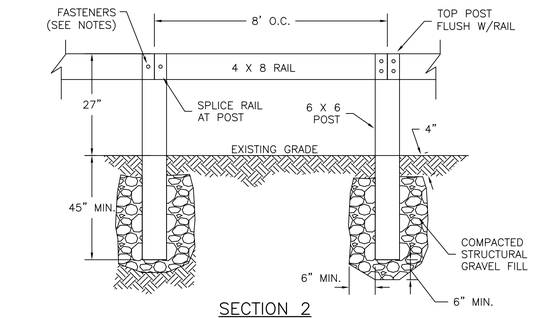


DRY SWALE WITH UNDERDRAIN (SECTION)
NOT TO SCALE

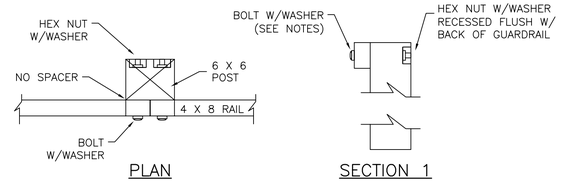


NOTES:
CLEANOUTS SHALL BE INSTALLED AT THE BEGINNING AND END OF EACH CHAMBER SERIES WITH A MINIMUM OF EVERY OTHER CHAMBER (1 EVERY 2 CHAMBERS IN SERIES).

TYPICAL CLEANOUT DETAIL
NOT TO SCALE



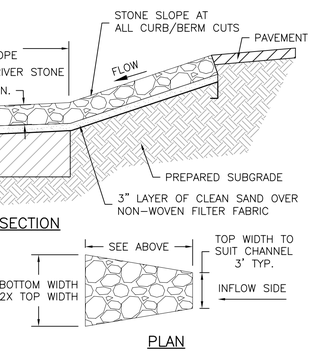
SECTION 2



PLAN SECTION 1

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. POST AND RAILS TO BE PRESSURE TREATED LUMBER.
3. ALL SPLICES ARE TO BE MADE AT POSTS.
4. BUMPER ANCHORS SHALL BE RAIL BOLTS WITH NUTS AND WASHER CONNECTION. FASTENERS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL MATCHING ASTM A153 AND ASTM A653.
5. THE CONTRACTOR SHALL INSTALL EITHER TWO ¾"Ø BOLTS OR ONE 2"Ø BOLT AT EACH RAIL TO POST CONNECTION.
6. COMPACTED GRAVEL FOOTING SHALL EXTEND AROUND THE ENTIRE POST.
7. WOOD POSTS SHALL BE NOTCHED AS NECESSARY TO FACILITATE CURVES AND CHANGES IN DIRECTION. RAIL SHALL BE CUT TO CREATE A RAIL TO RAIL FLUSH FACE JOINT AS NECESSARY.
8. BEGINNING & END SECTIONS SHALL BE ANCHORED INTO THE GROUND A MINIMUM 1–FOOT BELOW FINISH GRADE.

TIMBER GUARD RAIL
NOT TO SCALE

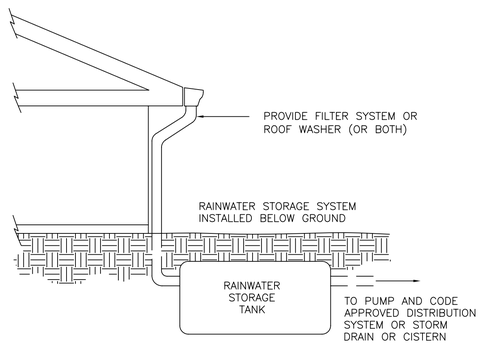


SECTION

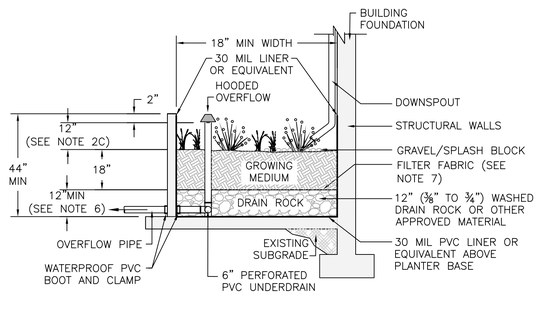
NOTES:
1. A INFLOW SHALL BE CONSTRUCTED AT THE END OF ALL CURB OR BERM CUTS THAT DISCHARGE INTO A BIORETENTION AREA.
2. BACKFILL SHALL COMPLETELY COVER FILTER FABRIC.
3. FILTER FABRIC SHALL BE TOE–ED INTO THE BIORETENTION MATERIAL & UPPER SLOPE (3" MIN.).
4. SHAPE CHANNEL AS REQUIRED WITH MIN. 6" SIDESLOPE DEPTH.

PLAN

BIORETENTION INFLOW DETAIL
NOT TO SCALE



RAIN WATER HARVESTING SYSTEM DETAIL
NOT TO SCALE



DOWNSPOUT PLANTER BOX
NOT TO SCALE

last modified: 01/18/10 printed: 01/20/10 by bk H:\Projects\2009\9037 CWP-Eagleville Brook\Drawings\9037-DE.dwg

Revisions

Rev.	Date	By	Appr.	Description
1				
2				
3				
4				
5				
6				
7				

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com
90 Route 6A Sandwich, MA 02563
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Environmental Finance Center
Center for Watershed Protection
8390 Main, Street 2nd Floor
Ellicott City, MD 21043
410-461-8323 voice 410-461-8324 fax

Date: 01/20/2010
Designed By: RAC
Drawn By: ERK
Checked By: RAC

Plan Set:

EAGLEVILLE BROOK IMPERVIOUS COVER TMDL RETROFIT PROJECT UNIVERSITY OF CONNECTICUT

Plan Title:

DETAILS (3)

Prepared For:
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University of Connecticut
Chester Arnold
P.O. Box 70
Hadlam, CT 06439
Phone: (860) 345-5230
Fax: ----

Existing Conditions Provided By:
University of Connecticut Facilities

Phone: ----
Fax: ----
Dated: November 2009

Registration:

DRAFT NOT FOR CONSTRUCTION

Project Number:
9037

Sheet Number:
13 of 13

Attachment E. Retrofit Reconnaissance Inventory (RRI) Field Forms

WATERSHED: EAGLESVILLE	SUBWATERSHED:	UNIQUE SITE ID: A1
DATE: 7/14/09	ASSESSED BY: DEB, PES, RCK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: NORTH CAMPUS BARBER STYLISTS
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: DOT & PRIVATE

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☒ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ 6,800 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

SMALL TURF AREA AT INTERSECTION OF STOKERS RD & _____. DRAINAGE FROM ONE LANE OF ROAD AND SMALL PORTION OF SMALL COMMERCIAL PARKING LOT DRAIN TO GRASSED ROW IN EXISTING YARD INLET

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☒ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

TWO PRACTICES. BIORETENTION IN LANDSCAPED ARE @ WEST (A2~~A~~); DRY SWALE @ NORTH OF SITE IN LS ARE ADJACENT TO EAGLEVILLE RD.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☒ Commercial ☐ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☒ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

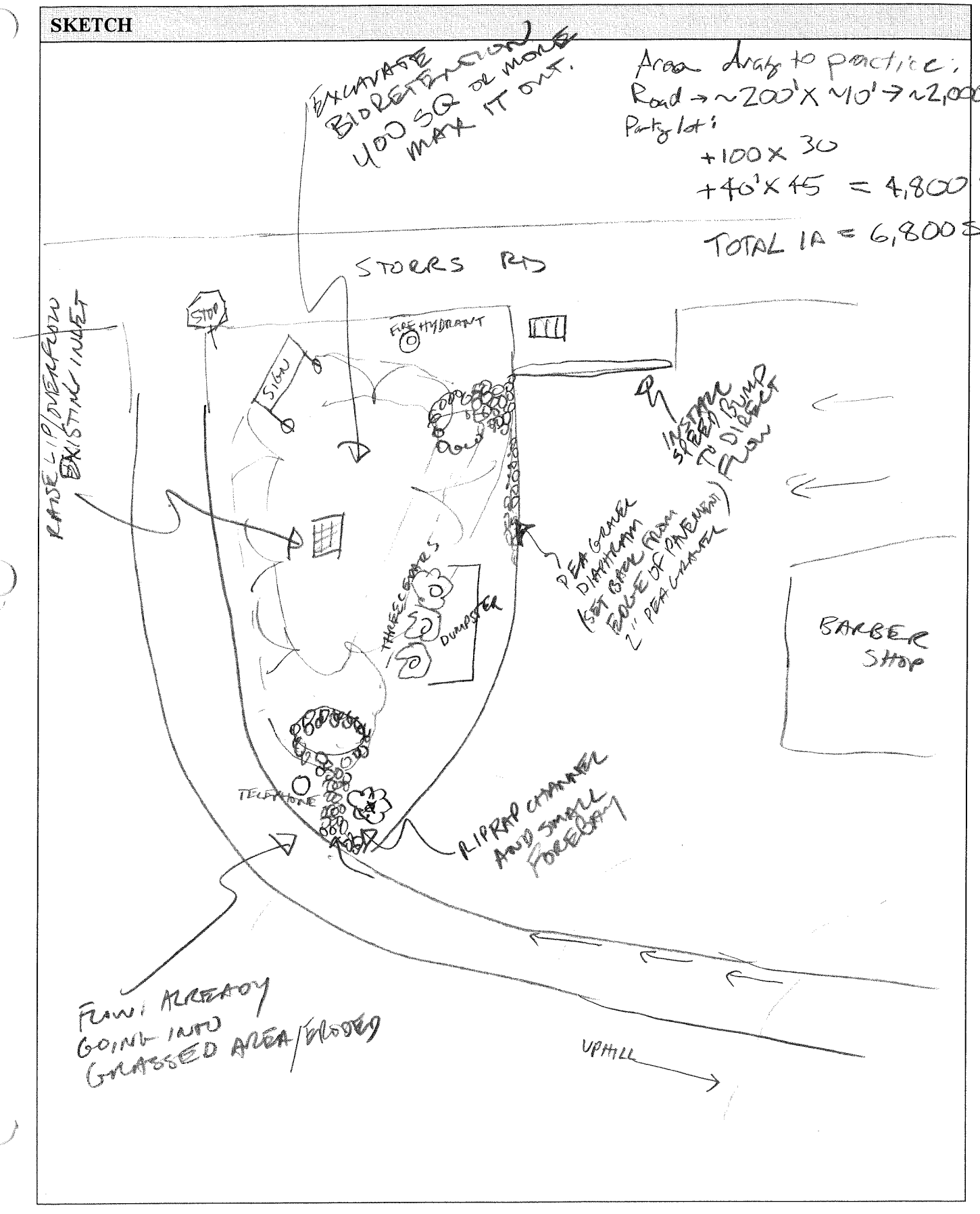
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

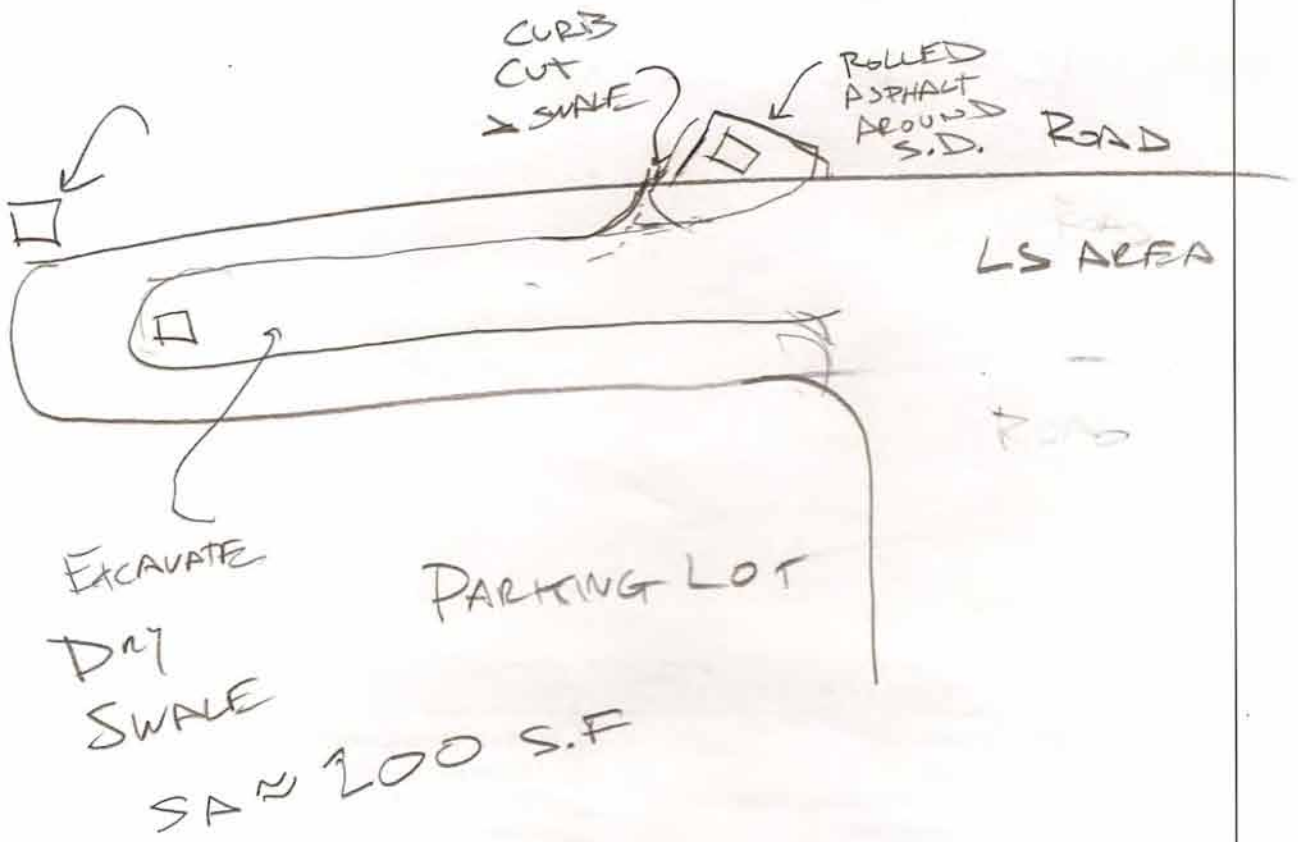
Unique Site ID: A1

SKETCH



Unique Site ID:_____

SKETCH



Unique Site ID: A1-D

DESIGN OR DELIVERY NOTES

POSSIBLE CONFLICT W/ WATER, BUT LINES APPEAR TO BE UNDER HIGHWAY.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

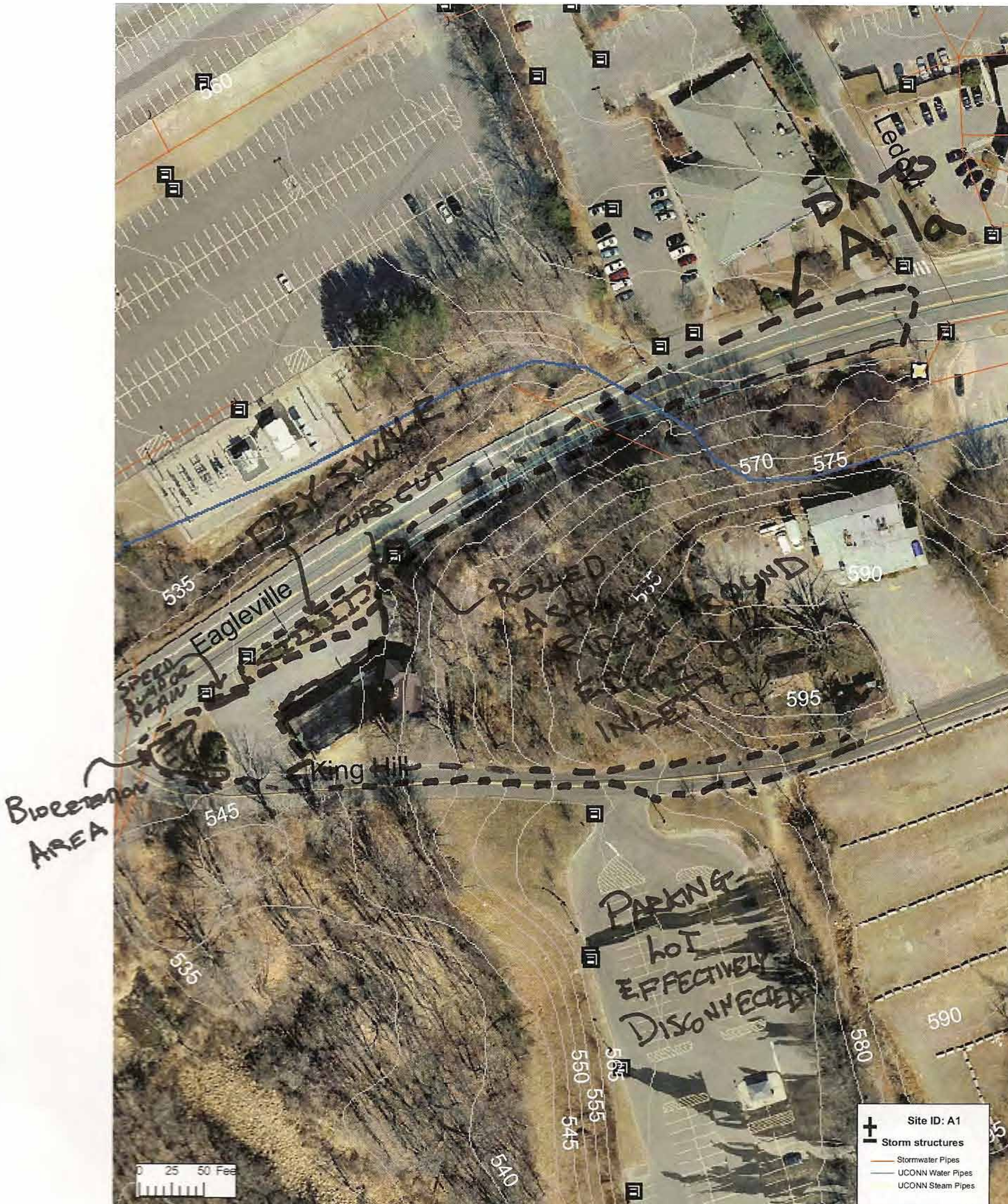
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☑ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☑ Obtain detailed topography
- ☑ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☑ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☑ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: A1



Eagleville
King Hill
Ledoyt
DA A-1a
DRY SWALE
CURB CUT
SPEED BUMP OR DRAIN
BIORETENTION AREA
ROLLED ASPHALT AROUND EDGE OF INLET
PARKING LOT EFFECTIVELY DISCONNECTED
535
545
560
570
575
580
590
595
540
550
555
565
0 25 50 Feet
Site ID: A1
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A10	
DATE: 7/14/09	ASSESSED BY: DC, LL	CAMERA ID: Olympus Stylus	PICTURES: 120-130
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: X lot south of Farmer Brown's
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ ~~Small~~ Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☒ Commercial
- ☐ Institutional
- ☐ Industrial
- ☒ ~~Transport-Related~~
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible
If Yes, Describe:

- lot drains north towards Farmer Browns & enters storm drain in northeast corner of FB's lot

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- lot has some cracking & staining w/ accumulations of sand at low points
- on "L" of lot, pooled water w/ tadpoles in NW corner

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
[x] Water Quality [ ] Recharge [ ] Channel Protection [ ] Flood Control
[ ] Demonstration / Education [ ] Repair [ ] Other:__________

Retrofit Volume Computations - Target Storage:	**Retrofit Volume Computations - Available Storage:**

Proposed Treatment Option:
[ ] Extended Detention [ ] Wet Pond [ ] Created Wetland [ ] Bioretention
[ ] Filtering Practice [ ] Infiltration [ ] Swale [ ] Other:__________

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

treats 2/3 of lot

- with trench drains, redirect flow east into existing mature treed swale, add berm on upper swale to protect eastern parking lot from flooding; BR on north end of lot (make lane one-way)
- no berm on lower cell
- on "L" shaped either divert to swales on private land/obtain easements, or add BR at ponded portion of lot

SITE CONSTRAINTS

Adjacent Land Use:
[ ] Residential [x] Commercial [x] Institutional
[ ] Industrial [ ] Transport-Related [ ] Park
[ ] Undeveloped [ ] Other:__________
Possible Conflicts Due to Adjacent Land Use? [ ] Yes [ ] No
If Yes, Describe:

Access:
[ ] No Constraints
Constrained due to
[ ] Slope [ ] Space
[x] Utilities [x] Tree Impacts possible
[ ] Structures [ ] Property Ownership
[ ] Other:__________

Conflicts with Existing Utilities:
[ ] None
[ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[x]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:__________

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[?] Probable	[ ] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[?] Probable	[ ] Not Probable
Impacts to Specimen Trees	[?] Probable	[ ] Not Probable

How many?__________
Approx. DBH__________

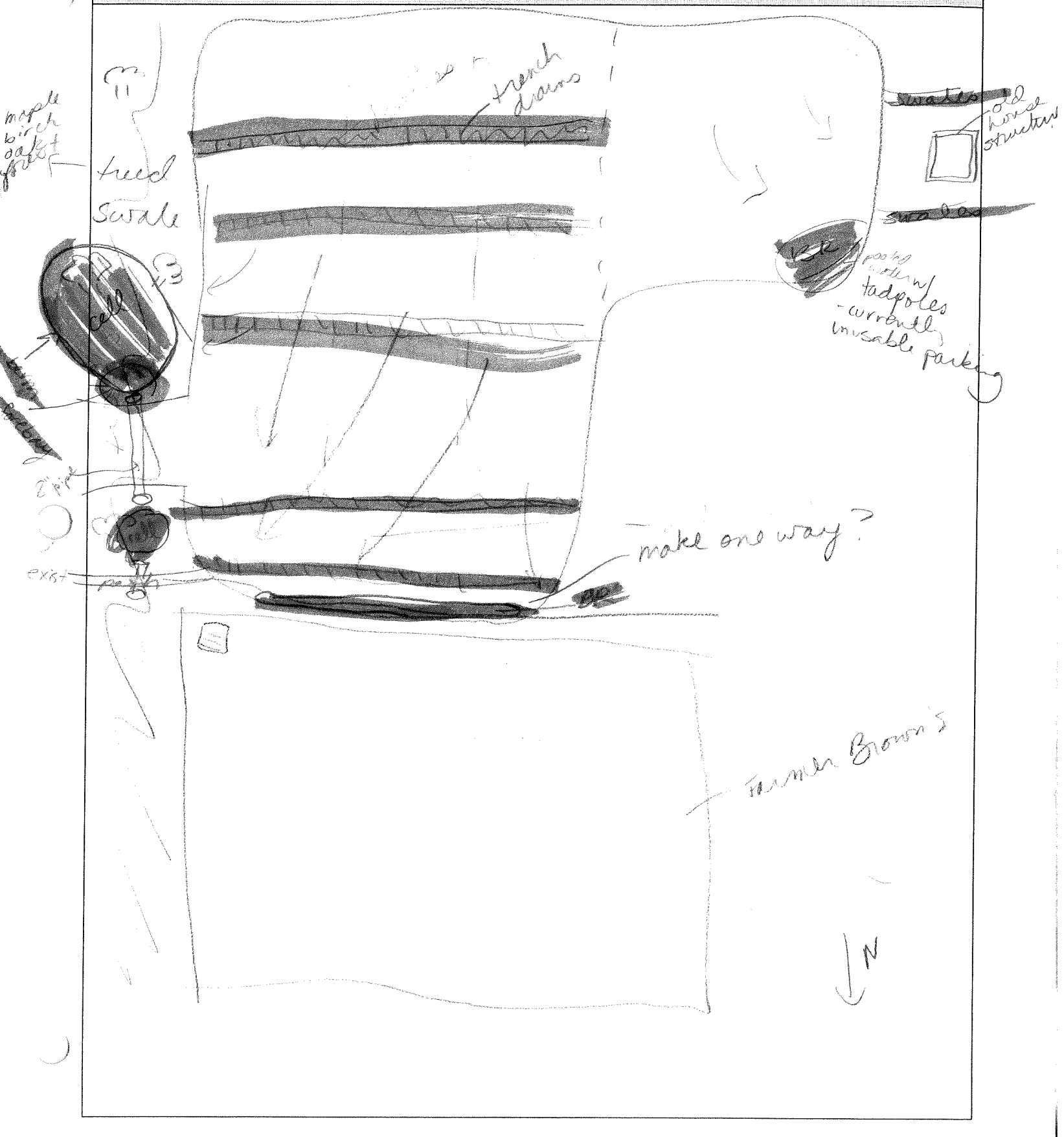
Other factors:__________

Soils:

	"L" shaped lot	
Soil auger test holes: adj.	[x] Yes	[ ] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[x] No
Evidence of shallow bedrock:	[ ] Yes	[x] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[x] No

Unique Site ID:______

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☒ Other: determine past & future use of adjacent private road w/ house structure

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S): _____

Unique Site ID: _____


585
580
590
595
600
615
620
625
630
635
640
645
TRENCH DRAINS
A-10B
A-10A
LINEAR DEPRESSION
Site ID: A10
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet


560
565
570
575
580
590
595
King Hill
585
590
595
600
605
610
615
620
ASPS
GRASSED GRAVEL
OPTION 1: REQUIRES DRAINAGE EASEMENT
OPTION 2: BIORETENTION
LEVEL SPREADER
TRENCH DRAIN
0 25 50 Feet
Site ID: A9
A1
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A11	
DATE: 7/20/09	ASSESSED BY:	CAMERA ID:	PICTURES: 131-134
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Lot 9
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☒ ~~Small~~ Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☒ Transport-Related Pkg lot
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible
If Yes, Describe:

drainage to north to storm drains

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

well used lot in poor condition adjacent to visitor's center lot

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:

☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:

☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- long linear swales/BR offset from street lights
- add planter boxes throughout
- BR in existing islands at north end of lot

SITE CONSTRAINTS

Adjacent Land Use:

☐ Residential ☒ Commercial ☒ Institutional
☐ Industrial ☒ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No

If Yes, Describe:

Access:

☐ No Constraints

Constrained due to

☐ Slope ☐ Space
☒ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:

☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☒	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

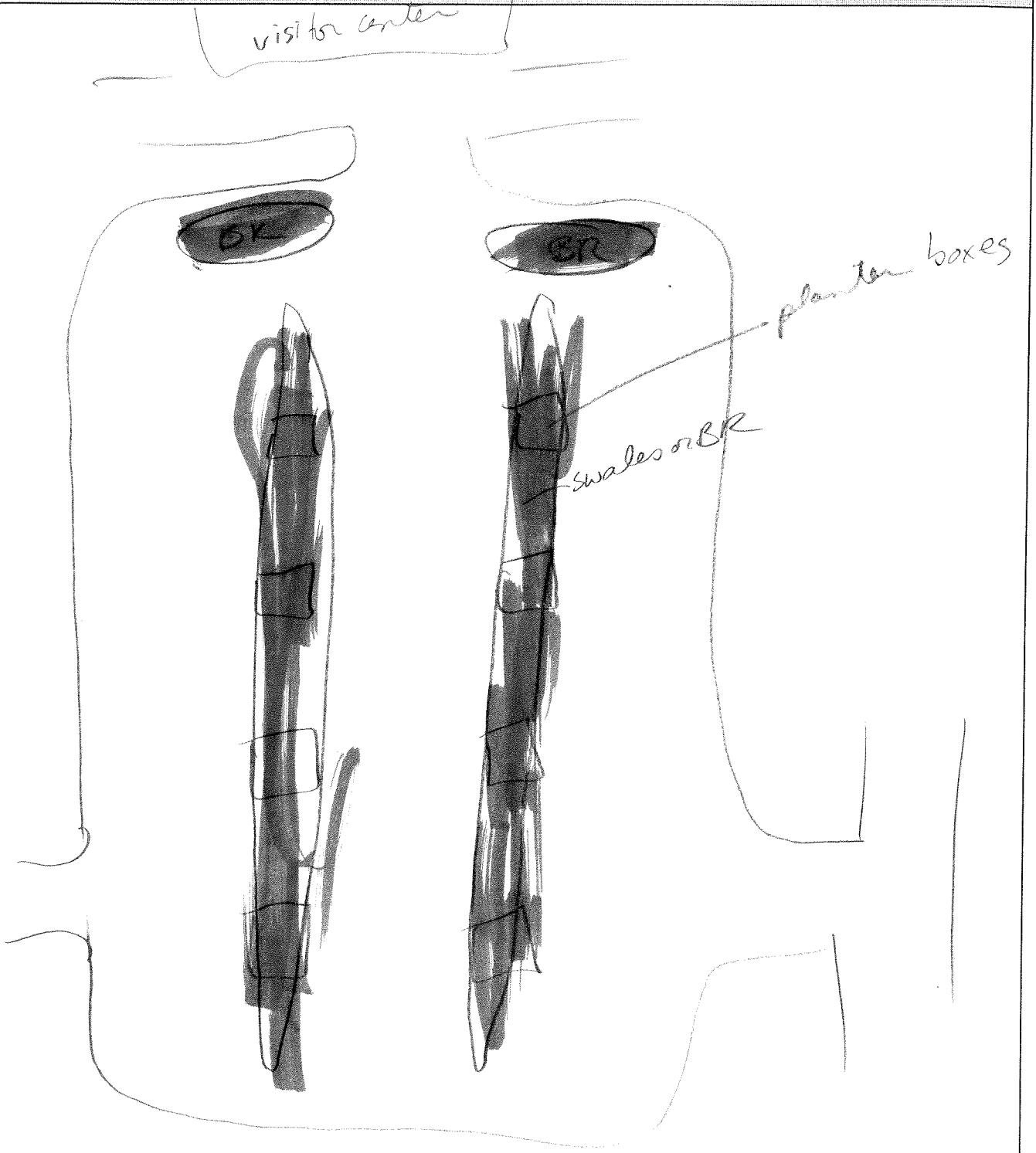
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

"near visitor center → good opportunity for educational display

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

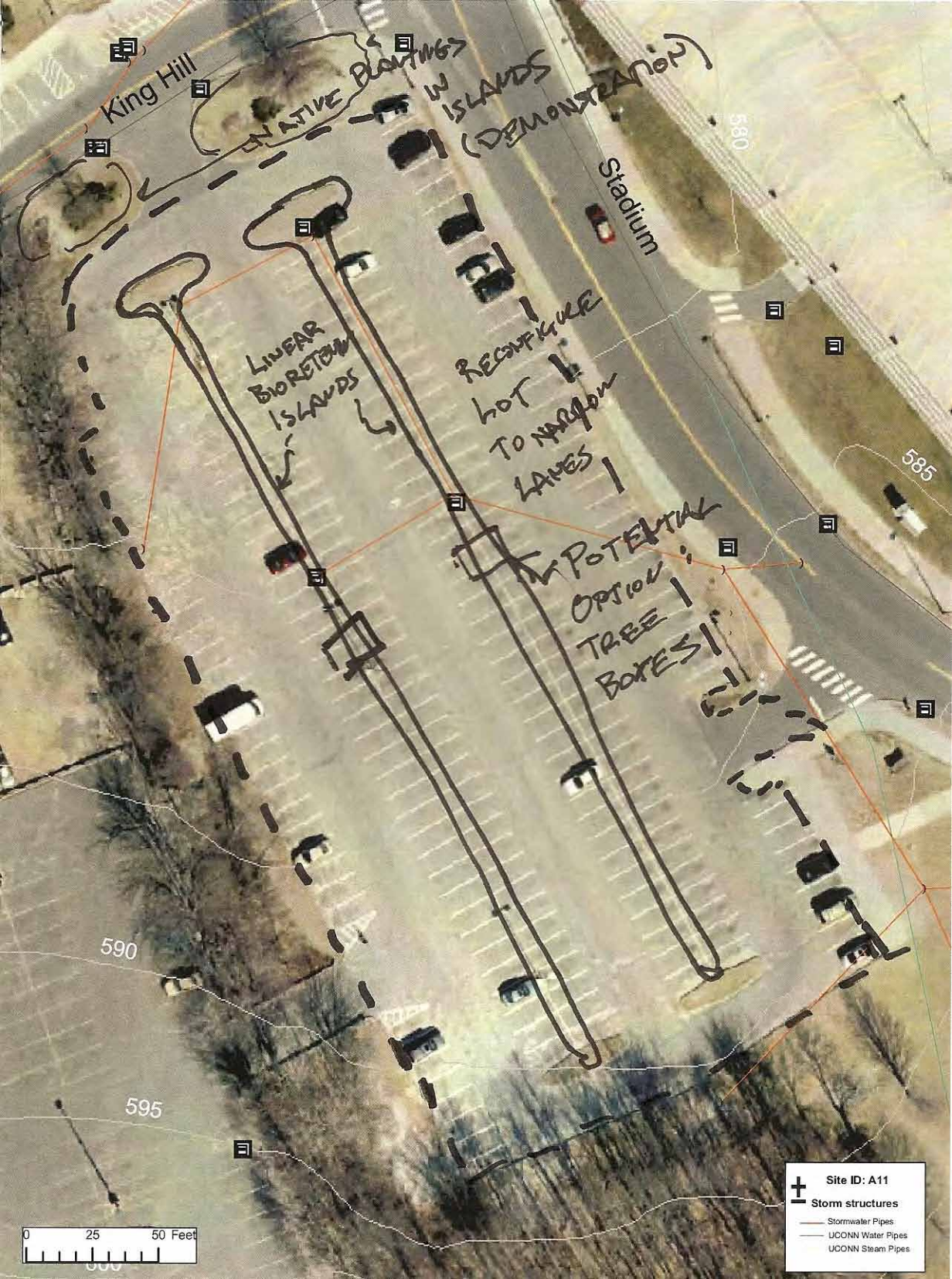
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


King Hill
NATIVE PLANTINGS IN ISLANDS (DEMONSTRATION)
Stadium
580
585
590
595
LINEAR BIORETENTION ISLANDS
RECONFIGURE LOT TO NARROW LANES
POTENTIAL OPTION TREE BOXES
Site ID: A11
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: A2	
DATE:	ASSESSED BY: ACK DSC	CAMERA ID: —	PICTURES:
GPS ID: —	LMK ID: PES	LAT: —	LONG: —

SITE DESCRIPTION

Name: A2 WETLAND RESTORATION SITE
Address: CORNER OF EAGLEVILLE RD & HUNTING LODGE RD

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location: WETLAND RESTORATION

Storage
☐ Existing Pond ☐ Above Roadway Culvert
☐ Below Outfall ☐ In Conveyance System
☐ In Road ROW ☐ Near Large Parking Lot
☒ Other: RECONNECT FLOODPLAIN

On-Site
☐ Hotspot Operation ☐ Individual Rooftop
☐ Small Parking Lot ☐ Small Impervious Area
☐ Individual Street ☐ Landscape / Hardscape
☐ Underground ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 254 acres
Imperviousness ≈ %
Impervious Area ≈

Notes: DRAINAGE AREA CALCULATED BY CECELIA AT CWP OFFICES — INCLUDES MOST OF CAMPUS

Drainage Area Land Use:
☐ Residential
☐ SFH (< 1 ac lots)
☐ SFH (> 1 ac lots)
☐ Townhouses
☐ Multi-Family
☐ Commercial
☒ Institutional
☐ Industrial
☐ Transport-Related
☐ Park
☐ Undeveloped
☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

DEGRADED WETLAND AREA — REDUCED CONNECTION TO STREAM DUE TO EXCESSIVE DOWNCUTTING AND ENTRENCHMENT, VEGETATION PRIMARILY INVASIVE PHRAGMITES AND REED CANARY GRASS. ALSO SEE CROWN VETCH, GOLDEN ROD, SENSITIVE FERNS, GRAPE, ALDER, SKUNK CABBAGE. POWERLINE ROW.

Existing Head Available and Points Where Measured:

TWO TRIBS DRAINING FROM THE WEST MEET UP IN EAGLEVILLE HOLLOW — CONFLUENCES ~~FLOW~~ JUST ABOVE HUNTING LODGE ROAD IN TWO LOCATIONS. ANOTHER SMALL CHANNEL IN CENTRAL PORTION OF WETLAND.

Unique Site ID:

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

① INVASIVE SPECIES MANAGEMENT

② RECREATION OF FLOODPLAIN AREA ADJACENT TO EAGLEVILLE BROOK TO PROVIDE ADDITIONAL STORAGE & TREATMENT CAPACITY. WILL ENTAIL PULLING BACK STREAM BANKS AND EXCAVATION TO RECREATE NATURAL CONDITIONS; CONSIDER ADDING WETLAND "FOREBAY" AREA TO HELP COLLECT ROAD SEDIMENTS.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☑ Commercial ☒ Institutional
☐ Industrial ☒ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric OVERHEAD
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☒ Probable	☐ Not Probable
Impacts to a Stream	☒ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

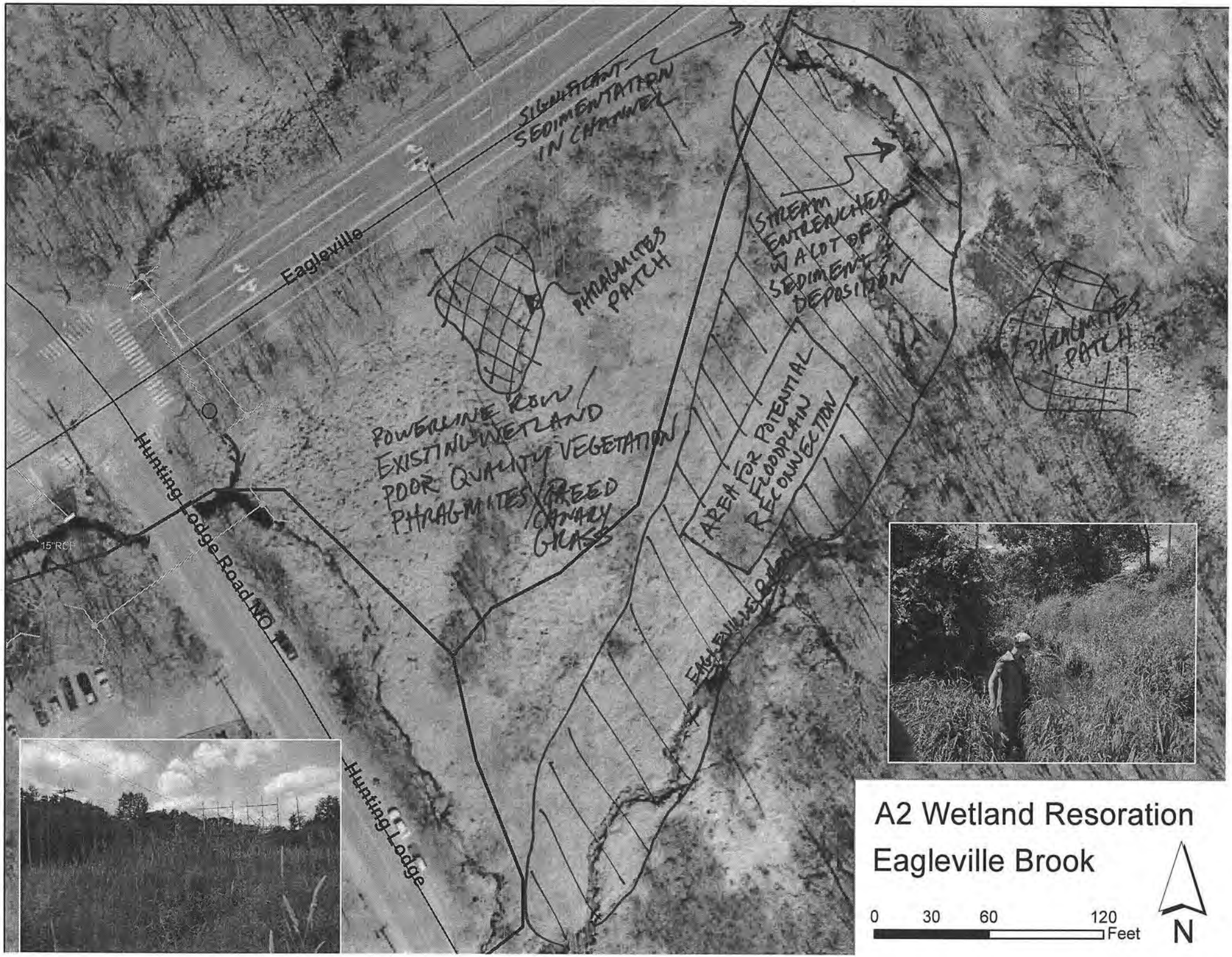
How many?_____
Approx. DBH_____
→ STAY TO NW OF STREAM PRIMARILY TO AVOID FOREST
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☑ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☒ Yes	☐ No

WETLAND SOILS

Unique Site ID:_____


SIGNIFICANT SEDIMENTATION IN CHANNEL
Eagleville
PHRAGMITES PATCH
STREAM ENTRENCHED W/ A LOT OF SEDIMENT DEPOSITION
PHRAGMITES PATCH
POWERLINE ROW
EXISTING WETLAND
POOR QUALITY VEGETATION
PHRAGMITES/REED CANARY GRASS
AREA FOR POTENTIAL FLOODPLAIN RECONNECTION
15"RCP
Hunting Lodge Road NO
Hunting Lodge
A2 Wetland Resoration
Eagleville Brook
0 30 60 120
Feet
N


Eagleville
Hunting Lodge Road NO 1
Hunting Lodge
15"RCP
A2 Wetland Resoration
Eagleville Brook
0
30
60
120
Feet
N

DESIGN OR DELIVERY NOTES

* THERE IS PATCH OF PHRAG UPSTREAM (BELOW WWTP)
* NEED TO IDENTIFY PLANT COMMUNITY OF NEARBY NATIVE WETLANDS

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☒ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☒ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☒ Other: CONDUCT COMPLETE WETLAND ASSESSMENT

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

* THIS PROJECT INVOLVES WETLAND RESTORATION WORK – WILL REQUIRE EXTENSIVE PERMITTING.
* POTENTIAL MITIGATION CREDITS / CHECK W STATE
* NEED TO COMPLETELY DOCUMENT DEGRADED STATUS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S): _____

Unique Site ID: _____

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: A3	
DATE:	ASSESSED BY: DSC/AGH/CA	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: P LOT
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☐ Other: _____

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other: _____
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

~~OVERLAND~~

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

PARKING LOT FLOWS TO TWO STORM INLETS AT THE TOP OF THE SLOPE, THEN TO THE SD NETWORK.

Existing Head Available and Points Where Measured:

> 8'

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention (~~TERRACED~~)
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

PEA GRAVEL DIAPHRAGM @ EDGE OF PARKING LOT. USE EITHER BITUMINOUS ASPHALT OR TRENCH DRAIN TO CONVEY FLOWS <1" OVER SLOPE TO PRACTICE (LARGER STORMS TO EXISTING S.D.).
PRACTICE (BIORETENTION FILTER) ENTIRELY IN FILL DUE TO LANDFILL CAP BELOW SURFACE.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☒ Other: OVER LANDFILL CAP

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

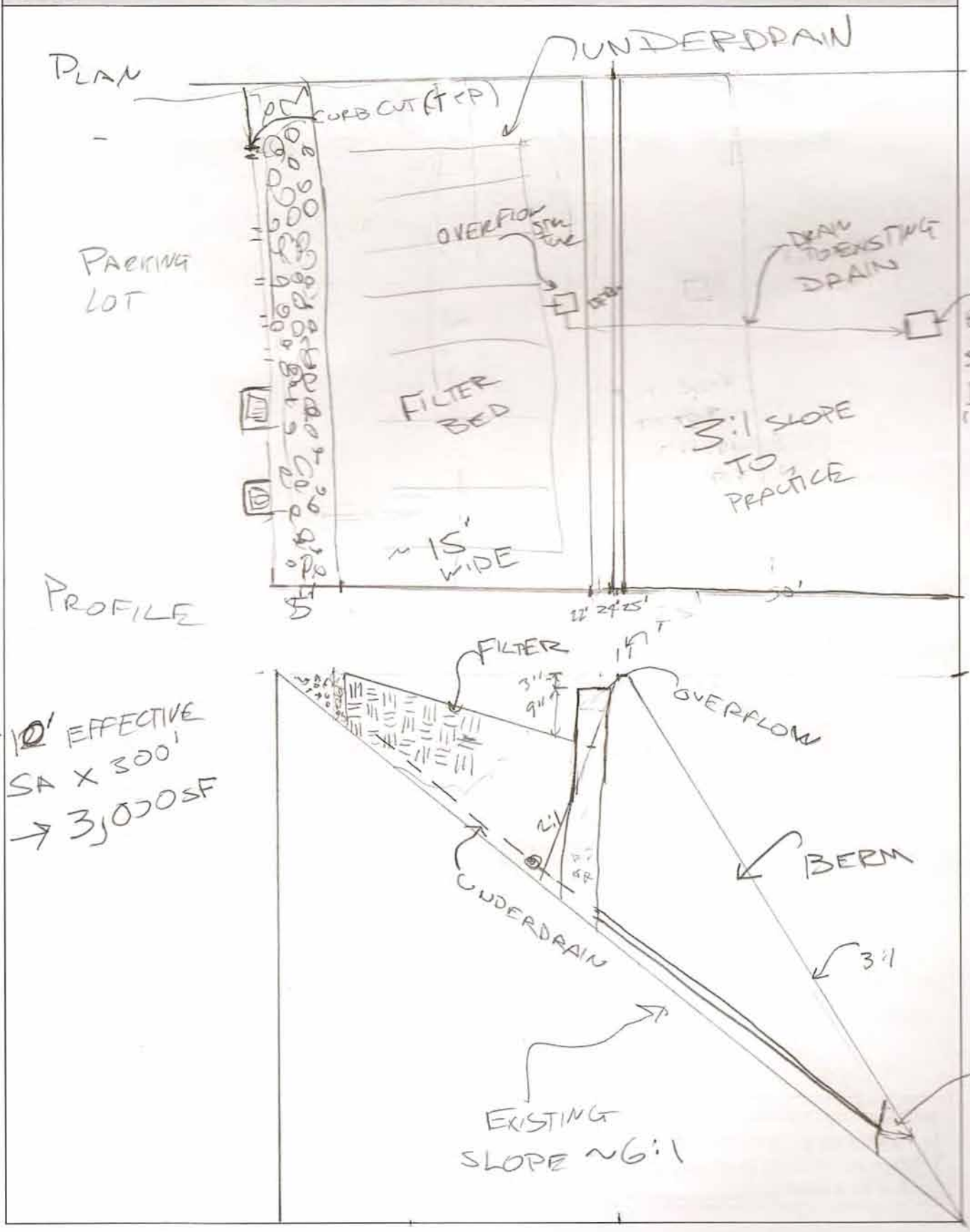
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID: A3

SKETCH



Unique Site ID: A3

DESIGN OR DELIVERY NOTES

NEED TO ENSURE THAT INSTALLING ABOVE LANDFILL CAP IS ACCEPTABLE.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

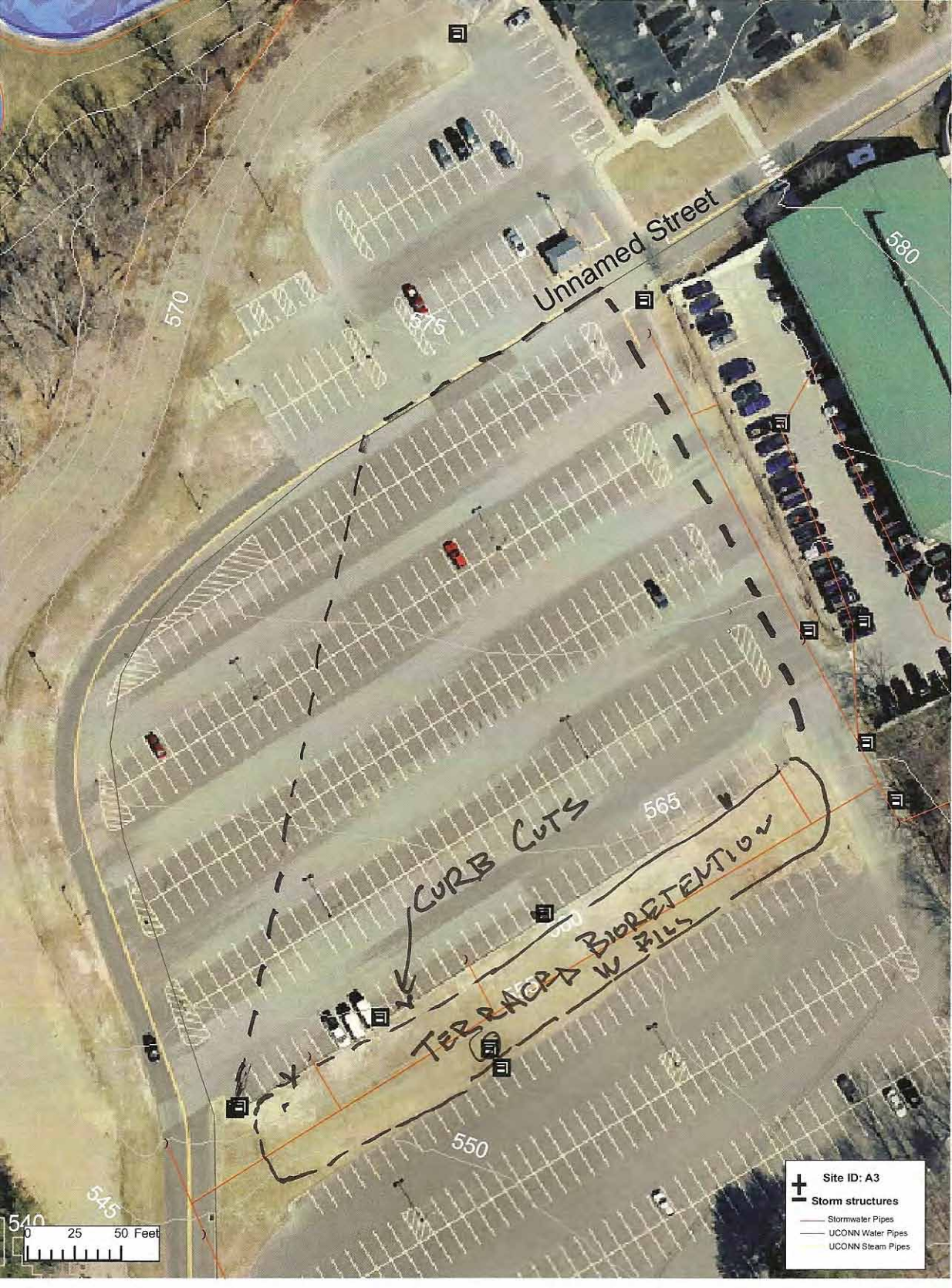
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☒ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☒ Obtain site as-builts
- ☒ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☒ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: A 3


Unnamed Street
570
575
580
565
550
545
540
CURB CUTS
TERRACED BIORETENTION W/ RILLS
0 25 50 Feet
Site ID: A3
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: Englevale	SUBWATERSHED:	UNIQUE SITE ID: A4	
DATE:	ASSESSED BY:	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: F LOT
Address:

Ownership: ☑ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☑ State ☑ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☑ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☑ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☑ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☑ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

SW FLOWS TO ONE SD IN CORNER OF THE LOT.

Existing Head Available and Points Where Measured:

~4' TO OUTLET @ STREAM

Unique Site ID:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

BYPASS EXISTING STORM DRAIN W/ DIVERSION TO SWALE. CREATE BIORETENTION FILTER (~1-2' DEEP). OVERFLOW BERM TO CHANNEL & U.D. TO CHANNEL.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☒ Other: PL

Conflicts with Existing Utilities:
☒ None
☒ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☒	Other: POSSIBLE

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

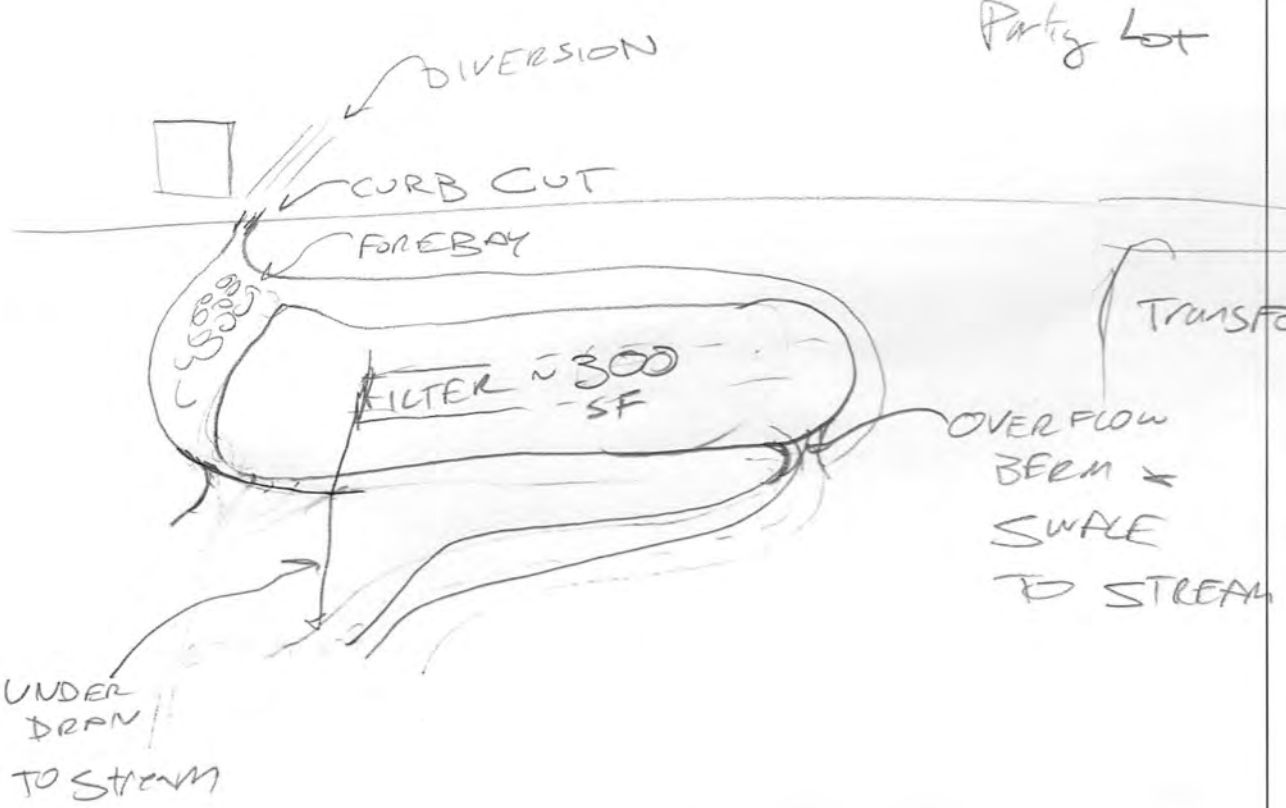
Other factors:_____

Soils: ISSUES W/ LANDFILL LINER, BUT LIKELY OUT OF THIS AREA.

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH



Unique Site ID: A4

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

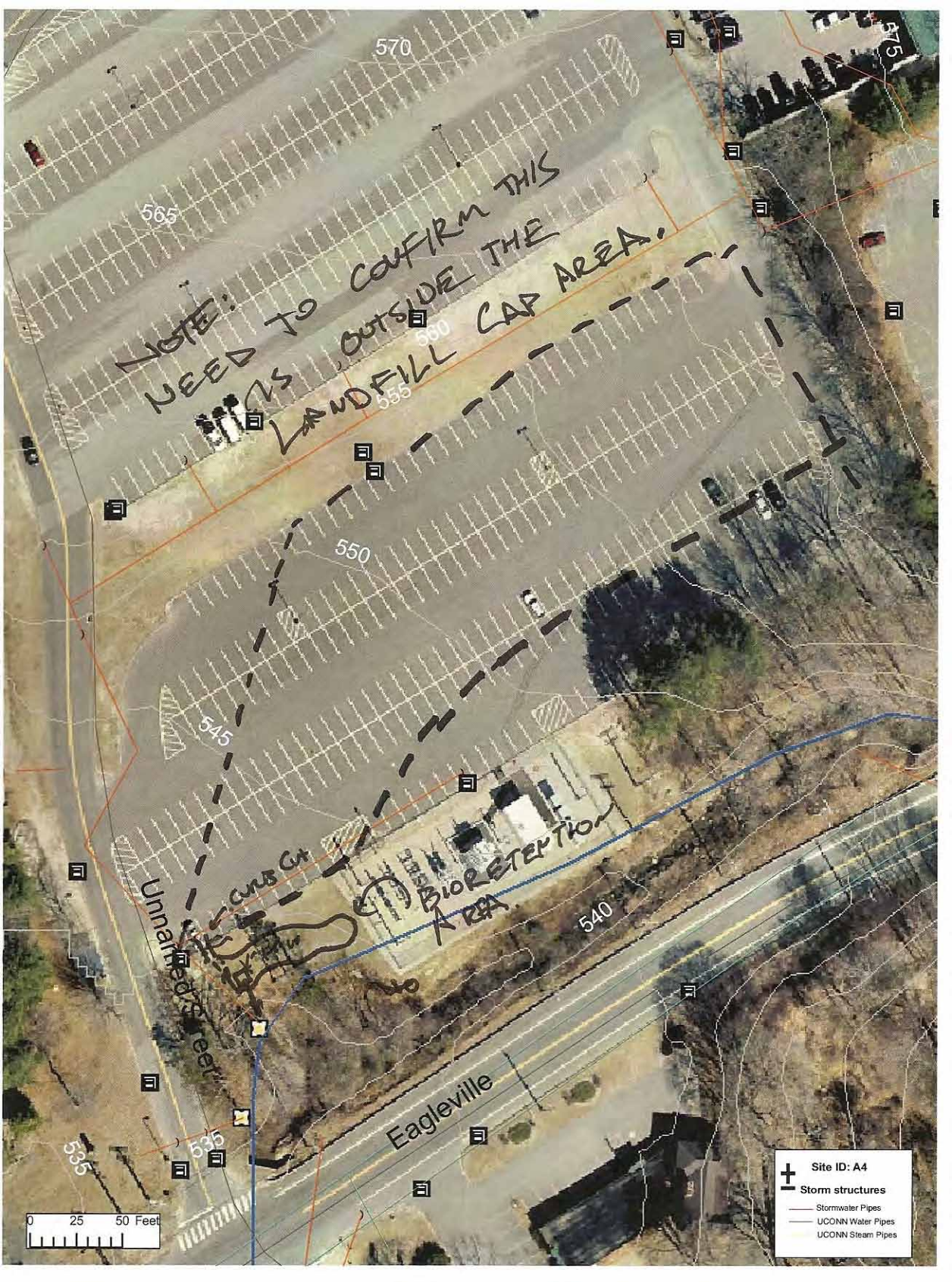
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☑ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☑ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


NOTE:
NEED TO CONFIRM THIS
IS OUTSIDE THE
LANDFILL CAP AREA.
570
565
560
555
550
545
540
535
575
Unnamed Street
CURB CUT
BIORETENTION
AREA
Eagleville
0 25 50 Feet
Site ID: A4
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A5	
DATE: 7/15/2009	ASSESSED BY: DC, LL, CH	CAMERA ID: Olympus Stylus	PICTURES: 73 - 82
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Facilities/maintenance

Address:

Ownership: ☐ Public ☐ Private ☐ Unknown

If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage

- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site

- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____

Imperviousness ≈ _____ %

Impervious Area ≈ _____

Notes:

• potential sewage cross-connection between facilities + bus yard

Drainage Area Land Use:

- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible

If Yes, Describe:

- rooftops for facilities drain to storm drain
- bus maintenance lot - no treatment

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- bus maintenance lot - very stained + dirty

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:

☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: rooftop storage / infiltration

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:

☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☒ Filtering Practice ☒ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- two large rooftops for facilities → green roof installation; rainwater collection in cisterns
- bus maintenace lot (+ loading areas) → sand filter installation for treatment of high pollutant loading from buses; SW corner of lot

SITE CONSTRAINTS

Adjacent Land Use:

☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No

If Yes, Describe:

Access:

☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:

☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

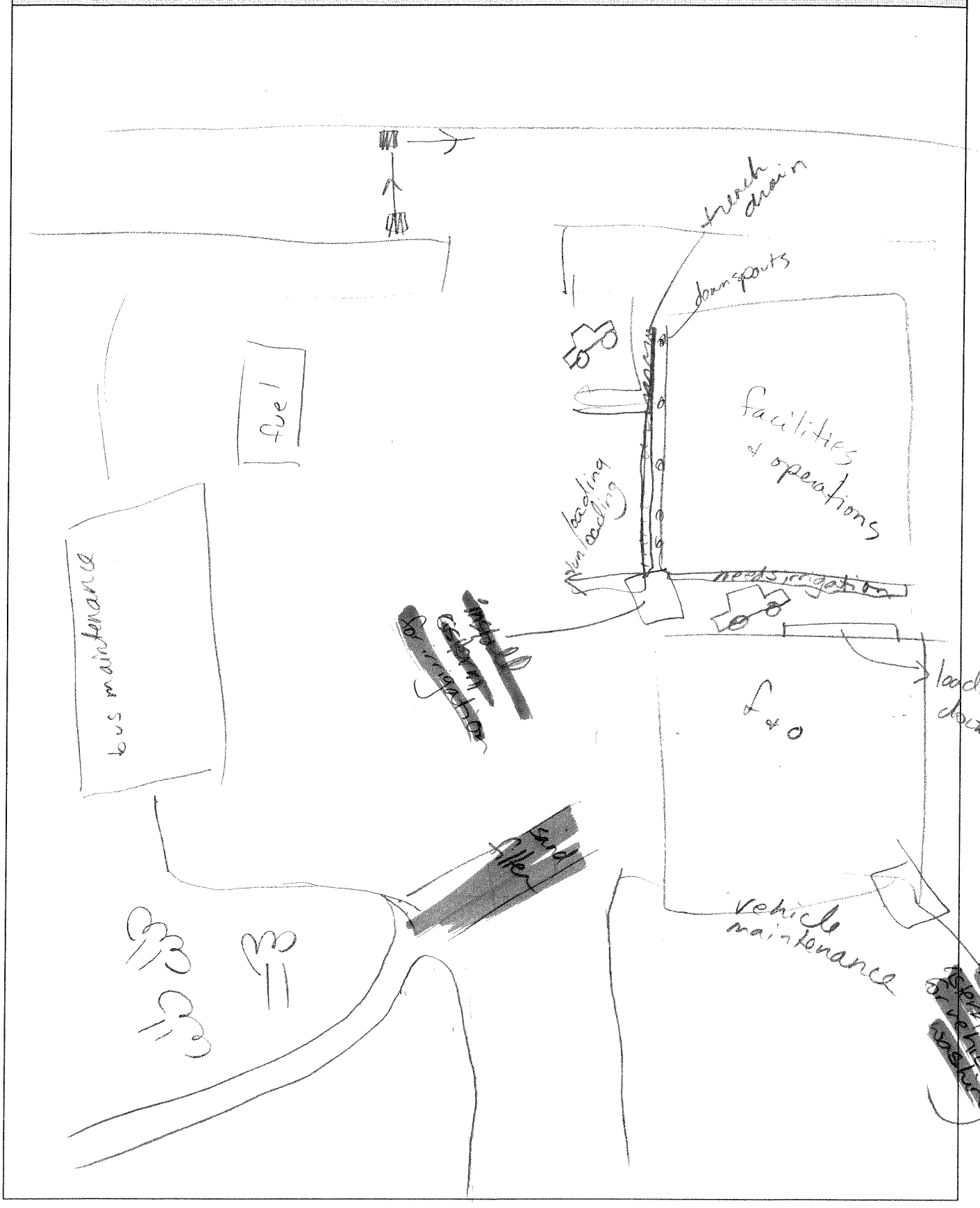
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☒ Obtain site as-builts for sand filter
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


1. CONDUCT DETAILED MAPPING AT THIS SITE
HIGHLY CONTAMINATED PLANTS (REMOVED)
PERIMETER AND HIGHLY CONTAMINATED
TRENCH DRAIN
Unnamed Street
Unnamed Street
Technology
Ledoyt
GREEN ROOF
605
620
630
635
625
610
615
595
600
585
590
580
570
575
Site ID: A5
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A16	
DATE: 7/15/09	ASSESSED BY: A, U, Chet	CAMERA ID:	PICTURES: 94 - 101
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Student housing - Alan T Busby Suites
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☒ Townhouses - dorm
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible
If Yes, Describe:

- rooftop runoff drains to swales and then into valley
  - one swale grass & compacted soil; another is rip rap swale

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- new housing/parking lot with little treatment but opportunities for education/student involvement in rain garden/BR implementation

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [x] Demonstration / Education
- [ ] Recharge
- [ ] Repair
- [ ] Channel Protection
- [ ] Other:
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Wet Pond
- [ ] Created Wetland
- [x] Bioretention
- [ ] Filtering Practice
- [ ] Infiltration
- [ ] Swale
- [ ] Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(a) install BR behind housing unit near volleyball to treat rooftop runoff

(b) replace rip rap conduit w/ BR facility

SITE CONSTRAINTS

Adjacent Land Use:
- [x] Residential
- [ ] Commercial
- [ ] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [x] No

If Yes, Describe:

Access:
- [ ] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [x] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:

Conflicts with Existing Utilities:
- [ ] None
- [ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[x]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[ ] Not Probable
Impacts to Wetlands	[ ] Probable	[ ] Not Probable
Impacts to a Stream	[ ] Probable	[ ] Not Probable
Floodplain Fill	[ ] Probable	[ ] Not Probable
Impacts to Forests	[ ] Probable	[ ] Not Probable
Impacts to Specimen Trees	[ ] Probable	[ ] Not Probable

How many?

Approx. DBH

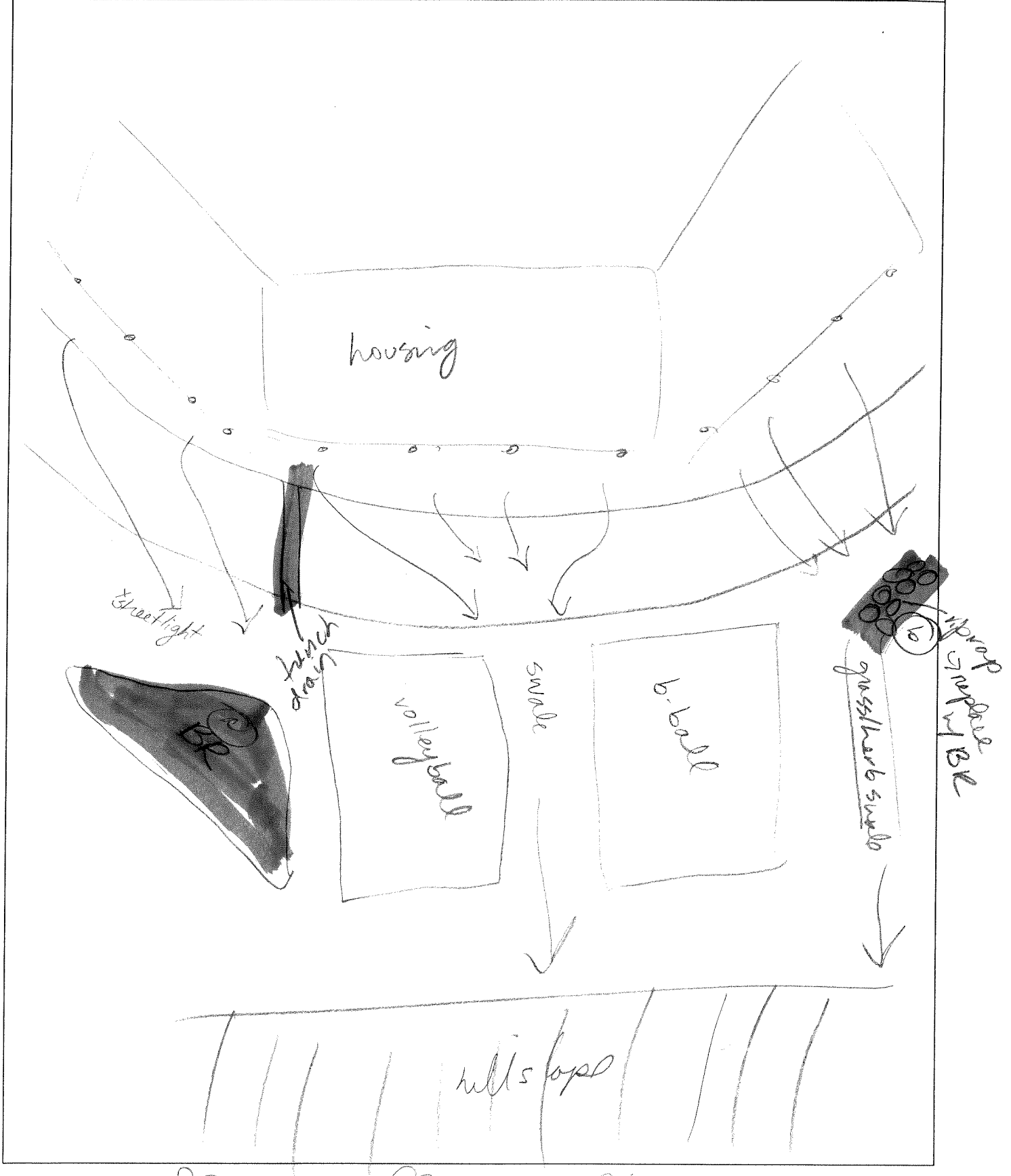
Other factors:

Soils:

Soil auger test holes:	[ ] Yes	[x] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[ ] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

Unique Site ID:

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

*good project for student involvement

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other: _____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☒ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S): other projects exist but outside of watershed

Unique Site ID: _____


Unnamed Street
MODIFIED DRAINAGE BOUNDARY
730
715
725
730
720
705
730
710
715
BIORETENTION
ENHANCE EXISTING SWALE
HIGHLY OVER-
700
695
690
680
675
670
665
660
685
Site ID: A6
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A7	
DATE: 7/15/09	ASSESSED BY: K, A, Clet	CAMERA ID: Olympus Stylus	PICTURES: 102 - 108
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Northwest Dining Hall + Eli Terry Hall
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☒ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☒ Townhouses dorms
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible
If Yes, Describe:

• roof leaders directly into ground; drain to storm drains in center of quad

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

• quads of bare ground in center of quad
• many storm drains clogged w/ trash & sand

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- disconnect stormdrains, use trench drain to direct to center raingarden

OR

collect water in cistern & use to irrigate yard

SITE CONSTRAINTS

Adjacent Land Use:
☒ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☒ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☒	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

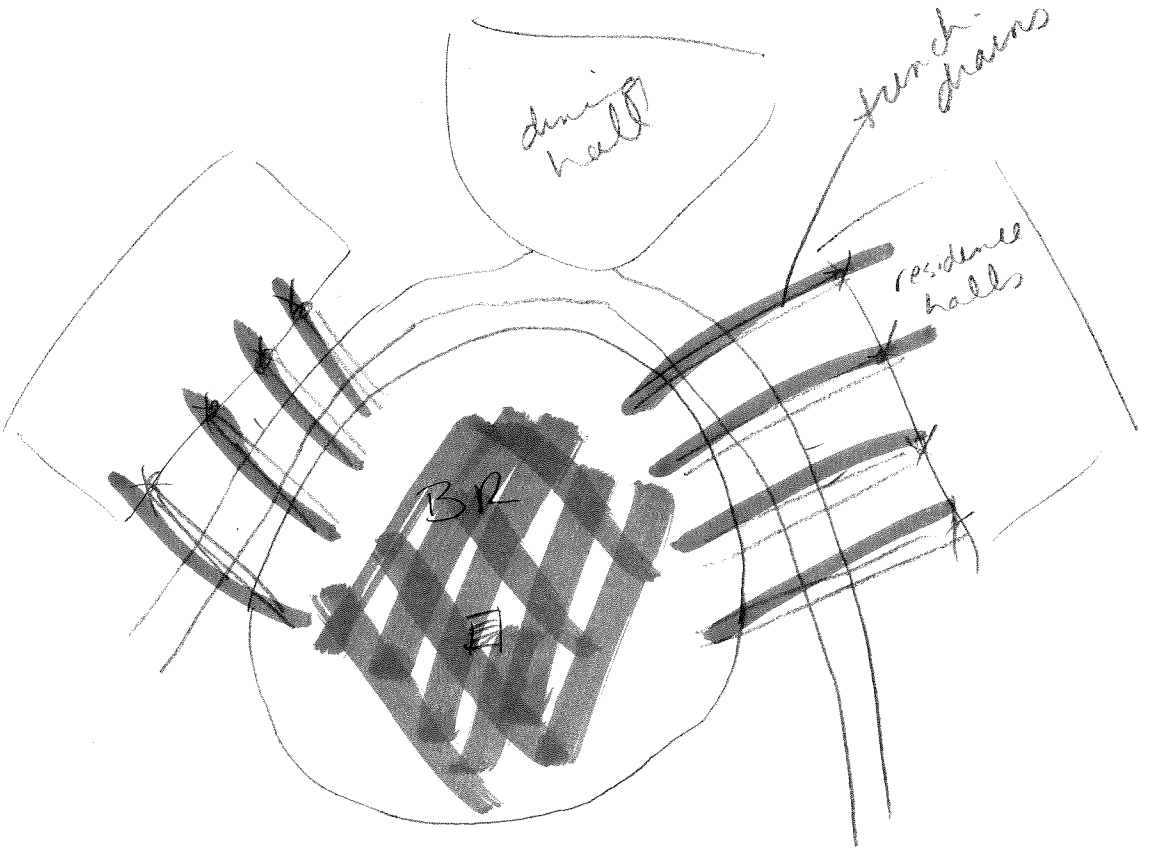
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


ALTERNATIVE:
• PERVIOUS WALKWAYS
NOTE:
SIGNIFICANT EROSION BY PATHS
DISCONNECT ROOFTOPS TO BIORETENTION
BIORETENTION
SMALL RAIN GARDENS
Unnamed Street
635
640
630
625
620
610
605
600
615
595
0 25 50 Feet
Site ID: A7
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: A8	
DATE: 7/15/2009	ASSESSED BY: DC, LL, MH	CAMERA ID: Olympus stylus	PICTURES: 109-116
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Whitney Hall
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☑ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☒ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☒ Townhouses dorms
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☐ No ☐ Possible
If Yes, Describe:

- interior of buildings drain to central grassy quad w/ low slopes terraced
- internal drainage of buildings
- exterior of buildings drain downslope to N Eagleville

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- gully erosion evident in interior of quad
  - lots of sand/gravel on sidewalks
- storm drains full of sediment

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☒ Infiltration ☐ Swale ☒ Other: erosion control

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) address erosion w/ trench drains across paths from bldgs to quad & then to BR, swale or tree planters

b) BR btwn Hall + dining area near large oak

c) BR @ bottom of hill near Eagleville Rd; add trench drain across road; berm downhill side; add overflow

SITE CONSTRAINTS

Adjacent Land Use:
☒ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

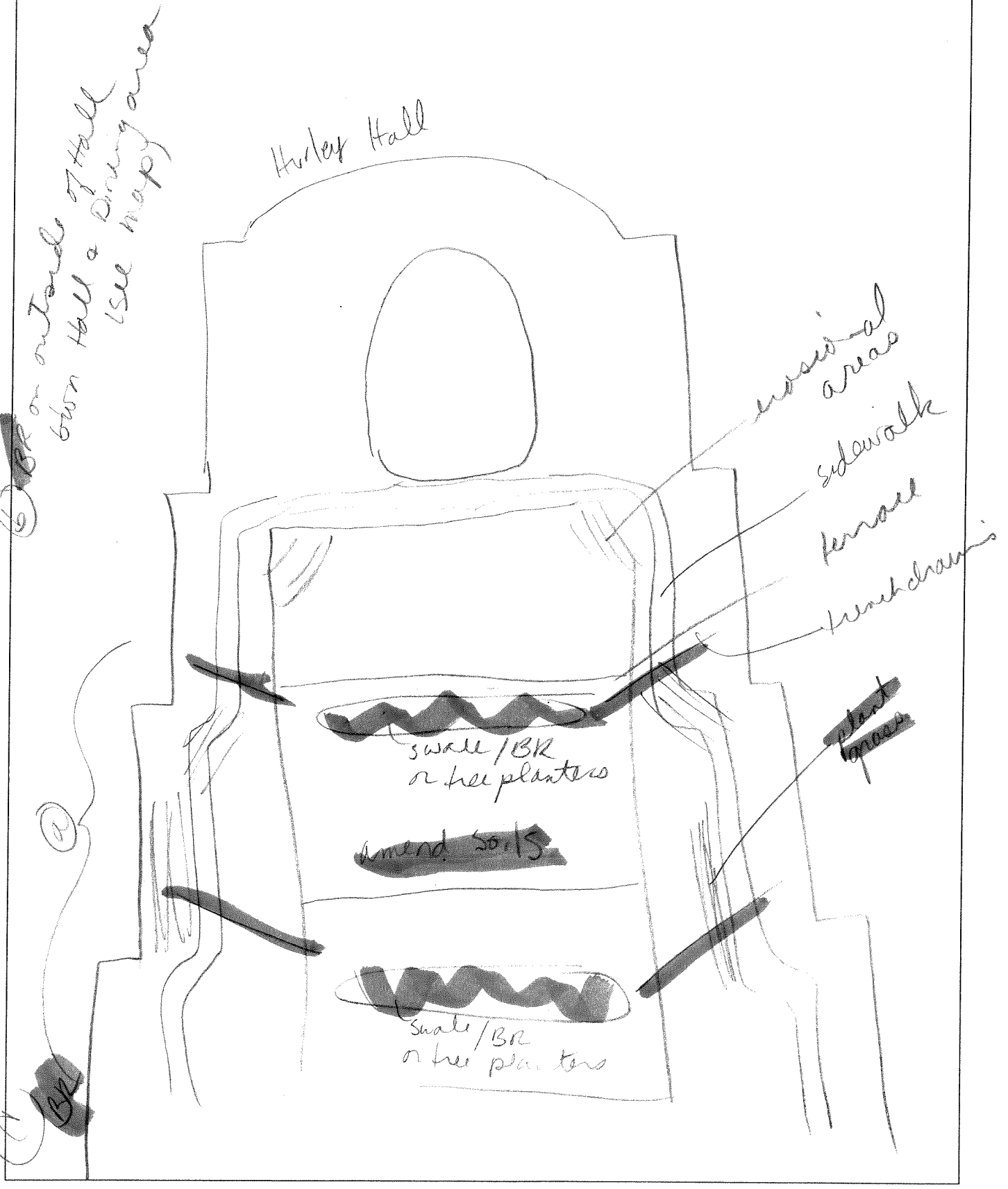
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH



Unique Site ID:_____

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☒ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


665
660
655
650
645
640
635
630
625
620
615
610
Unnamed Street
Eagleville
ALTERNATIVE: PERVIOUS WALKWAYS
TRENCH DRAIN (TYP)
BIORETENTION
BIORETENTION
TRENCH DRAIN
BIORETENTION AREA
0 50 100 Feet
Site ID: A8
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
A-8a

WATERSHED: Englishtown Brook	SUBWATERSHED:	UNIQUE SITE ID: A9	
DATE: 7/16/09	ASSESSED BY: K,H	CAMERA ID:	PICTURES: 117-119
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Farmer Brown's
Address:

Ownership: ☐ Public ☒ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ ~~Small~~ Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☒ ~~Transport-Related~~
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- grass parking lot, very compacted (acts as IC), ½ drains N/NW into trail/wooded area & ½ to SE storm drain
- some of southern parking lot drains to this lot

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☒ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:
• install porous pavement

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None (check)
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH

see map

Unique Site ID:_____

DESIGN OR DELIVERY NOTES

- future land use uncertain
  - if proposed development, install treatment practices
  - if parking garage installed, leave some open space w/ trees.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☒ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


560
565
570
575
580
590
King Hill
595
OPTION 1:
PERVIOUS PAVERS
OPTION 2:
REDEVELOP W/
REDUCTION IN I.C./
ADVANCED
STORMWATER
585
590
595
600
605
610
615
620
0 25 50 Feet
Site ID: A9
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: EAGLEVILLE BROOK	**SUBWATERSHED:**	**UNIQUE SITE ID:** B-1 A-D	
DATE: 7/14/09	**ASSESSED BY: RC/KC/LL (B-TEAM)**	**CAMERA ID: OLYMPUS RC'S PENTAX**	**PICTURES: 41-48 AND 1966-1972 (PENTAX)**
GPS ID: N/A	**LMK ID:** N/A	**LAT: N/A**	**LONG:** N/A

SITE DESCRIPTION

Name: Parking Lot I, sites a through d.
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT X Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☒ Near Large Parking Lot
- ☒ Other: Exist. wetland acts as storage retrofit

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☒ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 6.7 ac (all sites)
Imperviousness ≈ 44% (all sites) %
Impervious Area ≈ 3.0 ac (all sites)

Notes: 4 separate sites draining to 3 separate locations

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☒ Yes ☐ No ☐ Possible
If Yes, Describe:

Sort of. Site C drains to natural wetland area that is isolated from drainage network that currently manages IC.

Part of the parking lot drains to Kings Brook that is outside of Eagleville Brook TMDL watershed.

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Parking lot in poor condition at low point (see sketch), pavement cracking, sediment deposition on parking lot, staining from standing water.

Sediment (mostly winter sanding) is collecting in existing isolated wetland.

Existing Head Available and Points Where Measured:

4 ft +/- at area b to invert of pipe.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Outlet Stilling Basin

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) Bioretention at SW edge of parking lot treating small area (12,640 sq ft)

b) Bioretention within parking lot island (removing existing IC), treating 29,580 sq ft.

c) Regrading/repaving when parking lot is repaired, install swale and/or trench drain with forebay prior to discharge to isolated wetland

d) Outlet stilling basin at pipe outfall to Kings Brook drainage area

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☒ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other: Possible utilities

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☒ Probable	☐ Not Probable
Impacts to a Stream	☒ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors: Probable high groundwater in parking lot

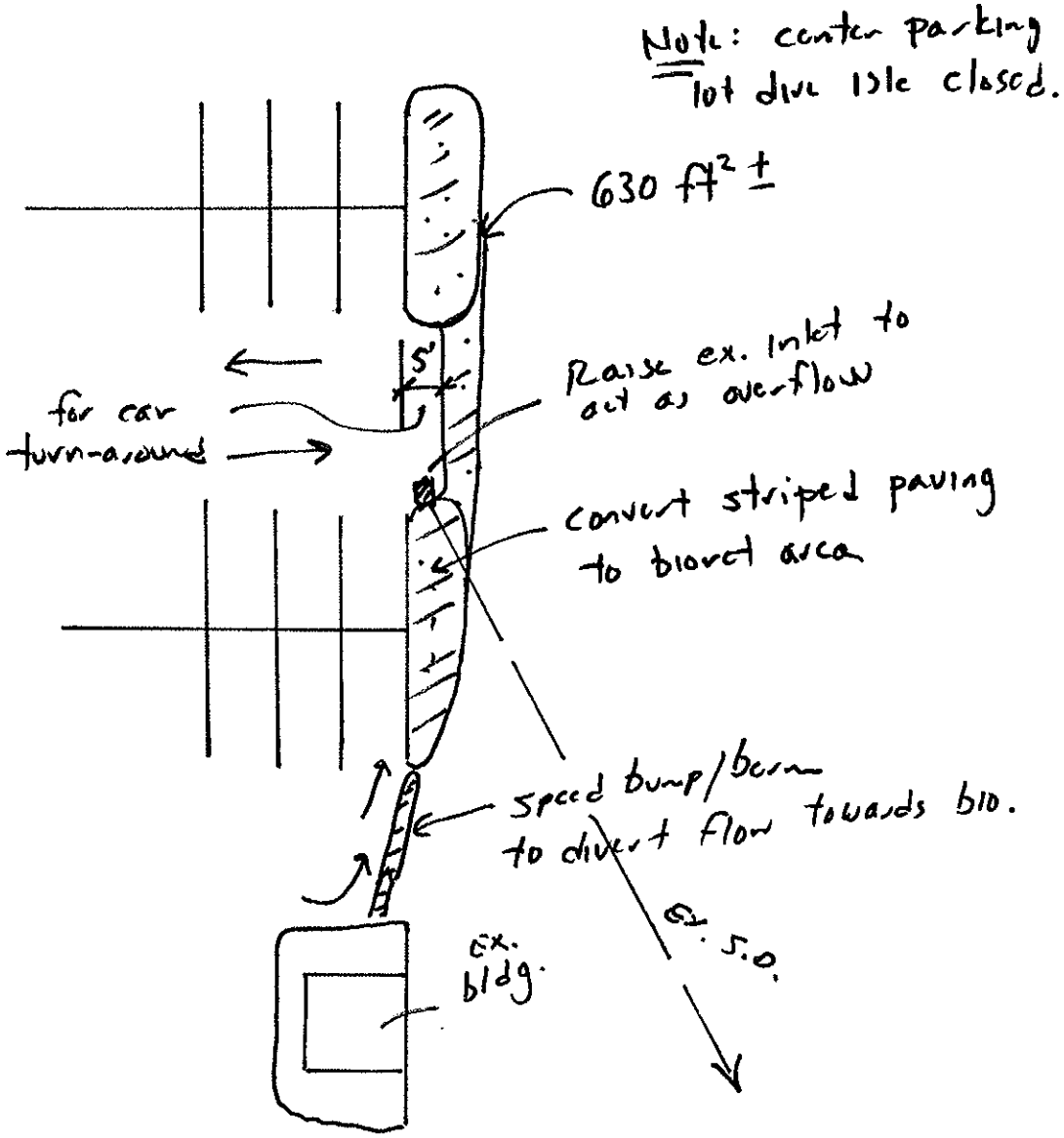
Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.

b)



Unique Site ID: B-1 a-d

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

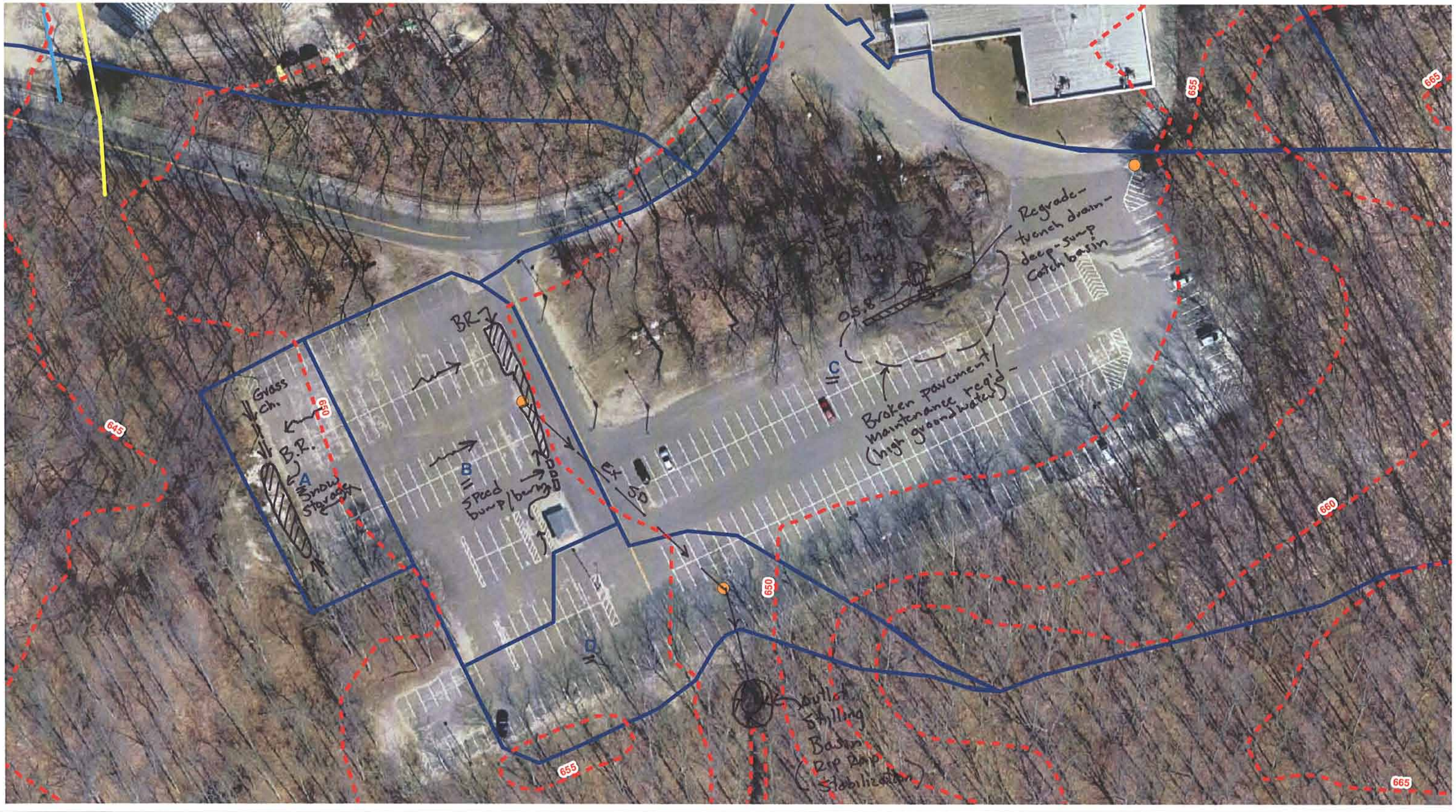
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible, but
Site c) drains to isolated wetland, not contributing to existing drainage area to Eagleville Brook

Site b and d) drain to Kings Brook, therefore not part a priority for TMDL.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☒ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Pipes
- Watersheds

N

60 Feet

Horsley Witten Group
phone: 508 833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-1

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-1

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-10 A & B	
DATE: 7/16/09	ASSESSED BY: RC/PS/ JR/CA (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 2097-2104
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Northwood Apartments parking lot
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☒ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 1.0 ac (both sites)
Imperviousness ≈ 98 %
Impervious Area ≈ 1.0 ac (both sites)

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Two separate drainage areas. Parking lot and driveway drain to inlets via paved flow areas. Parking lot edge is not curbed but drains towards interior of lot.

Existing Head Available and Points Where Measured:

No head limitations.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:	**Retrofit Volume Computations - Available Storage:**
See Spreadsheet	See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) bioretention to manage/treat small drainage area of approximately half the drainage total area. May require reconfiguration of parking spaces in the immediate vicinity of inlet.

b) bioretention to manage/treat small parking lot of approximately half the drainage total (same as a).

Note, project is currently under design to refurbish housing, including re-paving. Design engineer, BSC Group out of Glastonbury, CT. (Kurt Prochorena is the contact) are open to our proposed concept, including bioretention. BSC will take the first crack at design, we are to peer review.

SITE CONSTRAINTS

Adjacent Land Use:
☒ Residential ☐ Commercial ☐ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

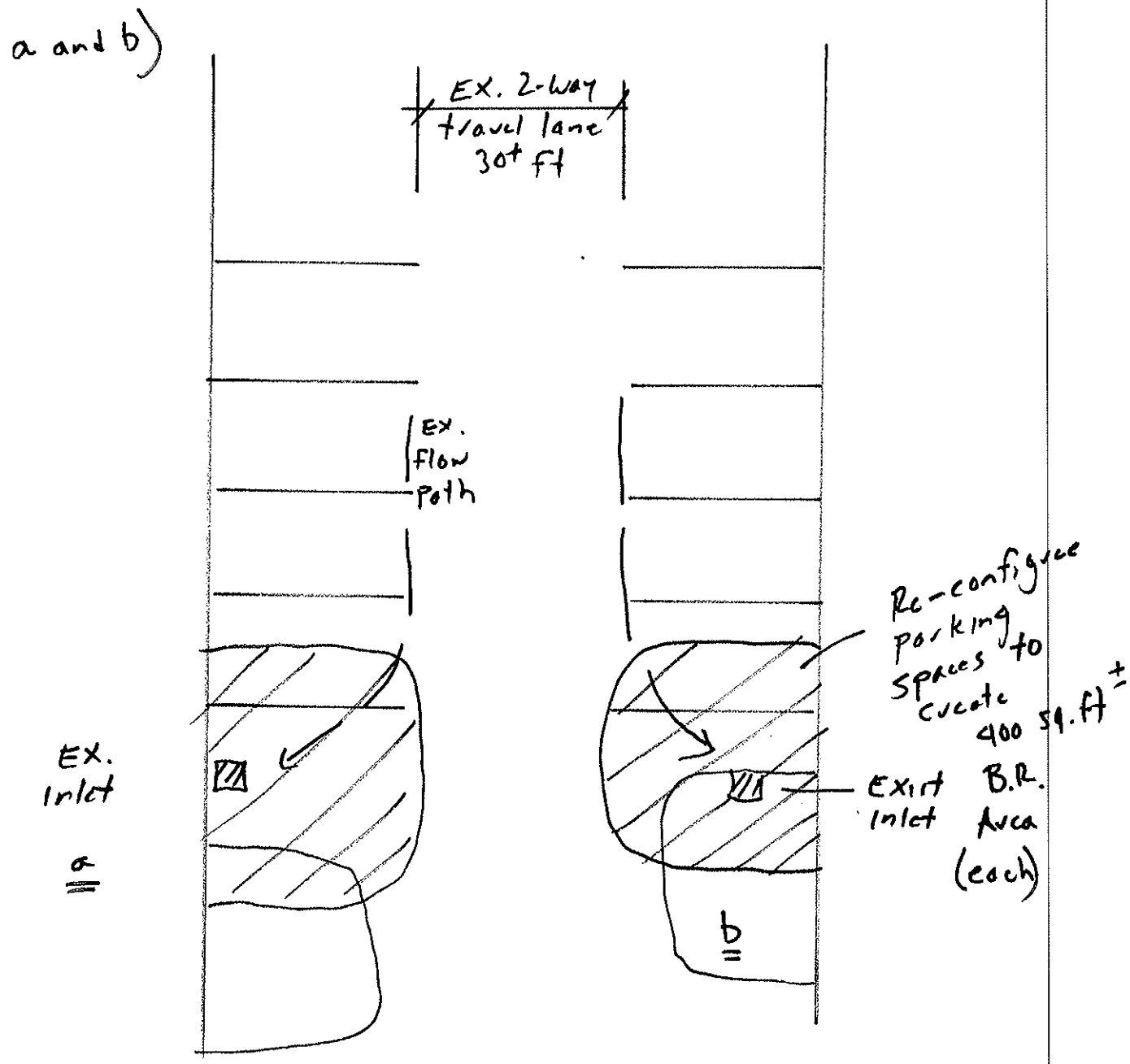
Other factors:_____
_____

Soils: Site B-9 d.

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.



DESIGN OR DELIVERY NOTES

a & b) runoff diverted to bioretention area overland via current paved drainage flow-path, modify parking lot to create island at existing inlets, raise inlet grate as overflow structure.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible and part of current refurbishment project for housing.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☒ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Legend

- 5ft. Contours
- UCONN Water Pipes
- Watersheds
- UCONN SW Pipes
- Storm Drains

N

100 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-10

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-10

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-11 A - D	
DATE: 7/16/09	ASSESSED BY: RC/PS/ JR/CA (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 1920-1925
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: W Parking Lot
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☒ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 6.0 ac (all sites)
Imperviousness ≈ 69 %
Impervious Area ≈ 4.2 ac (all sites)

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Four separate drainage areas. Parking lot drains to inlets via paved flow areas with curbing.

Existing Head Available and Points Where Measured:

No head limitations.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:	**Retrofit Volume Computations - Available Storage:**
See Spreadsheet	See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) swale and bioretention to manage/treat drainage area of approximately 1 acre. Provide curb cuts in existing asphalt berm to direct runoff to swale and then bioretention.

b) bioretention to manage/treat parking lot and upslope pervious area of approx. 2.6 acres. Bioretention located in island between travel lanes as shown on sketch, no pretreatment.

c) grass channel and/or forebay for pre-treatment flowing into bioretention in parking lot island.

d) filter strip or forebay for pre-treatment flowing into bioretention at edge of parking lot.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

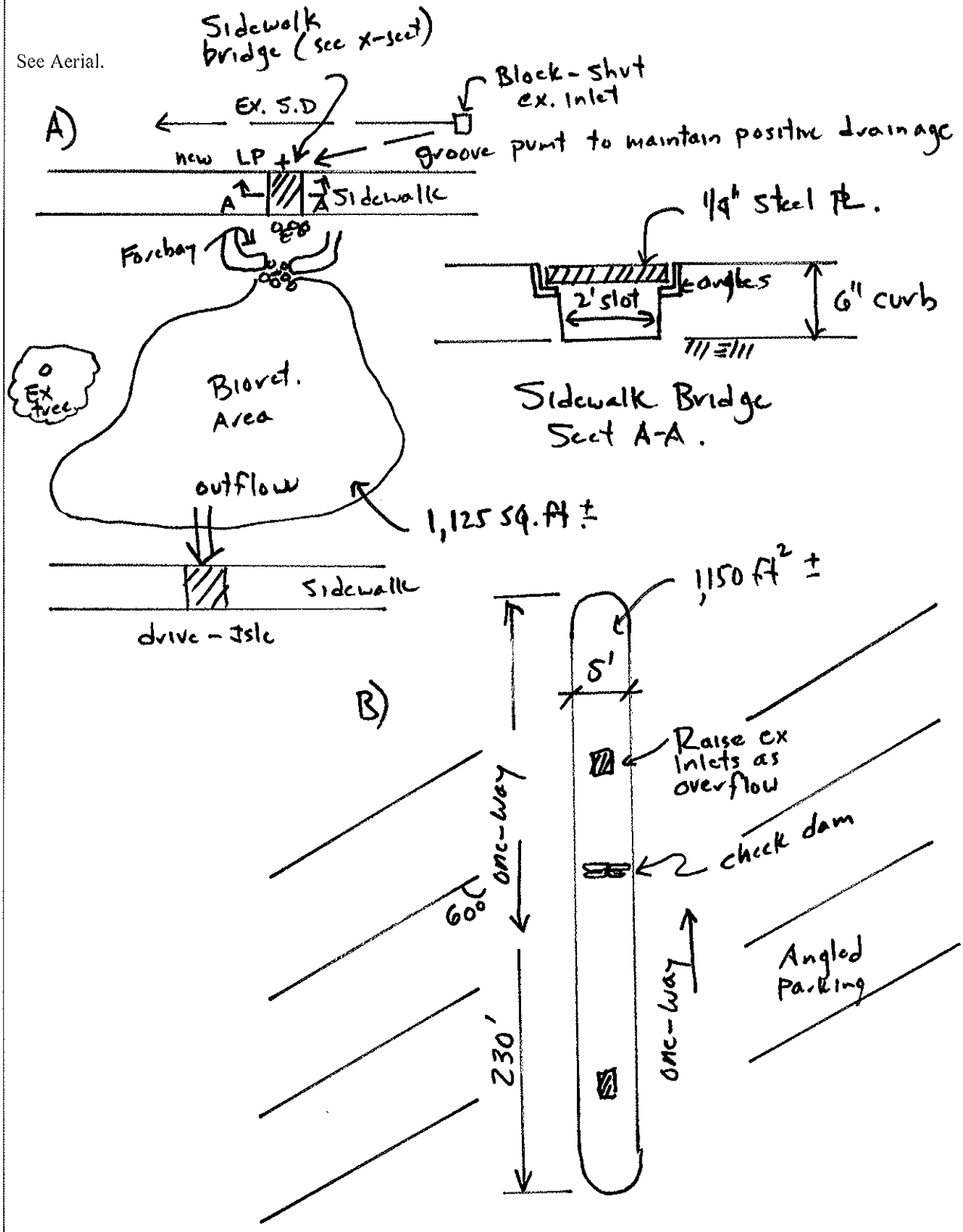
Other factors:_____
_____

Soils: Site B-9 d.

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

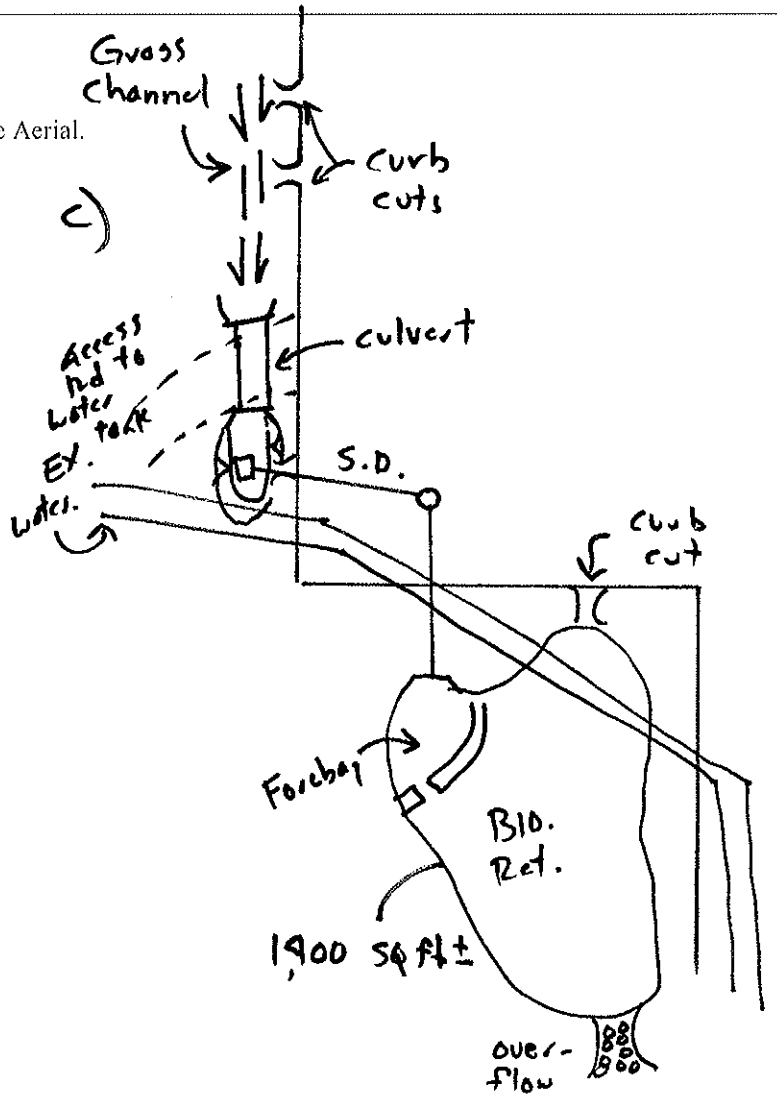
SKETCH

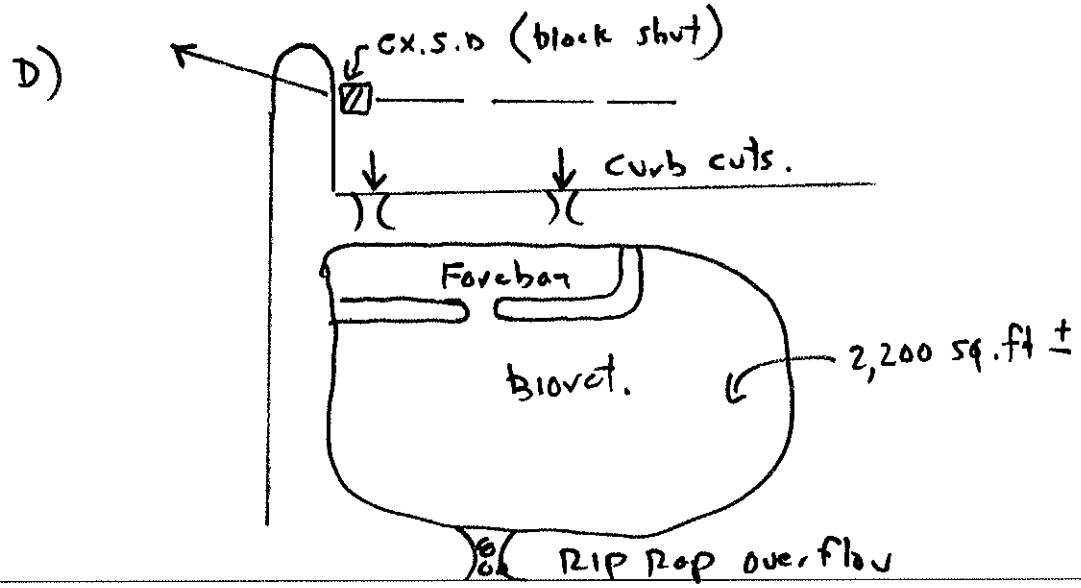
See Aerial.



Unique Site ID: B-11 a-d

See Aerial.





DESIGN OR DELIVERY NOTES

a) runoff diverted to bioretention area via curb cuts into grass channel as pre-treatment. Provide culvert under access road and channel into bioretention. Rip Rap overflow spillway.

b) only location for bioretention is island constructed between travel lanes, most runoff will enter in the upper portion, so provide forebay in fist cell, may require check dams to terrace facility. Raise existing inlets to act as overflow.

c) convert existing inlet to manhole at low point, provide positive drainage to grass channel/forebay flowing into bioretention. Save large tree. Overflow via rip rap spillway back into drive isle.

d) runoff diverted to bioretention area via curb cuts into filter strip and/or forebare flowing into bioretention. Overflow vial rip rap spillway back into drive isle.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

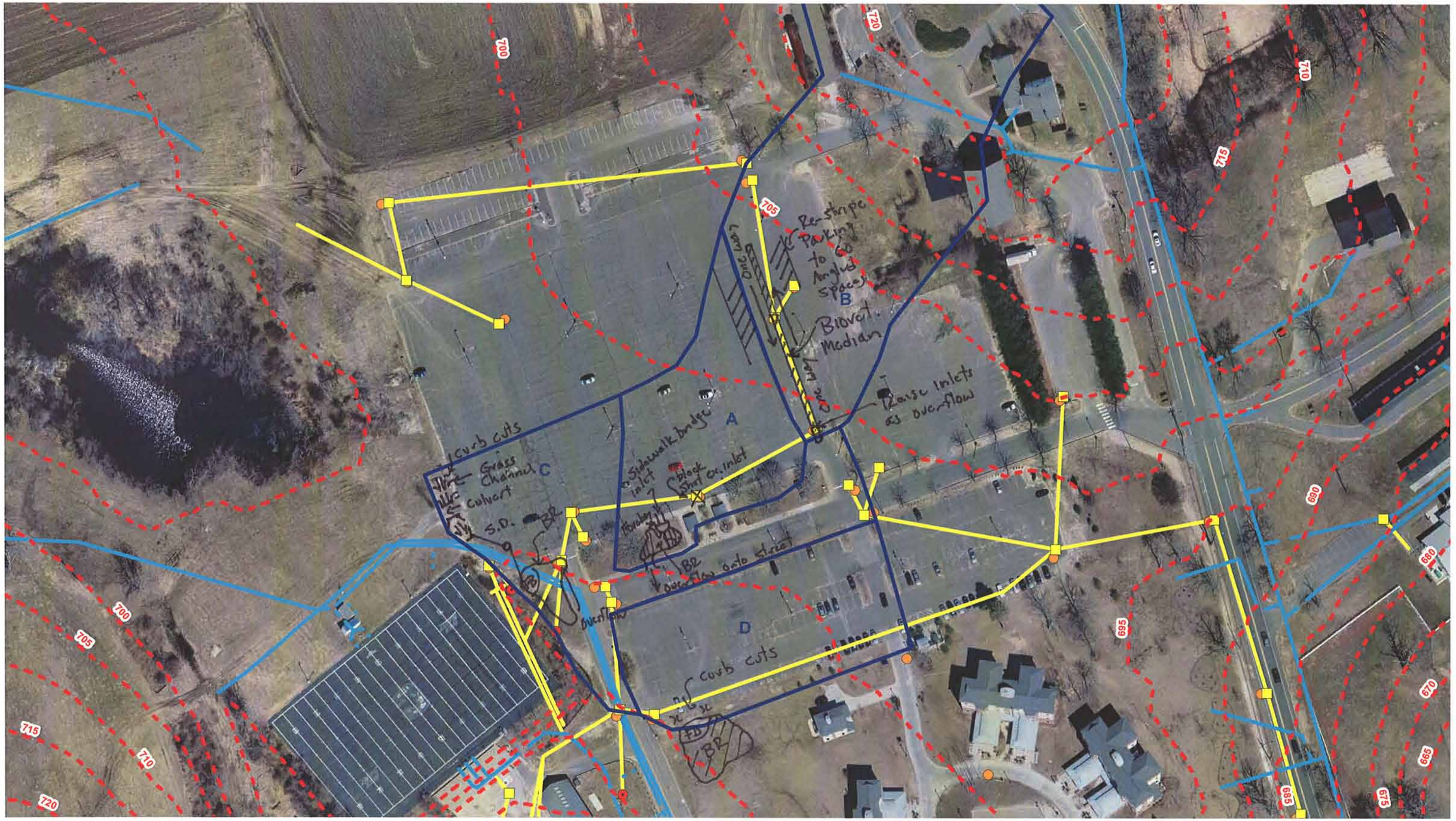
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible and likely cost effective, though site b) is undersized given contributing watershed.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN SW Catchbasins
- UCONN SW Pipes
- Outflow Points
- UCONN Water Pipes
- Watersheds

N

100 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-11

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-11

WATERSHED: EAGLEVILLE BROOK	**SUBWATERSHED:**	**UNIQUE SITE ID:** B-2 A & B

DATE: 7/14/09	**ASSESSED BY: RC/KC/LL JR/ET (DEP (B-TEAM)**	**CAMERA ID: OLYMPUS RC'S PENTAX**	**PICTURES: 41-48 AND 1973-1974 (PENTAX)**
GPS ID: N/A	**LMK ID:** N/A	**LAT: N/A**	**LONG:** N/A

SITE DESCRIPTION

Name: Ice rink service area/access road and rooftop.
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT X Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☒ Individual Rooftop
- ☒ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 1.4 ac (all sites)
Imperviousness ≈ 61 % (all sites) %
Impervious Area ≈ 0.8 ac (all sites)

Notes: 2 separate site

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☒ Possible
If Yes, Describe:

Existing roof drains somewhat disconnected by drain to storm drain within 20 ft.

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Existing ice storage area drains from stockpile onto paved surface, discharges to drainage inlets, dumpster directly connected to paving surface behind ice rink (see photo).

Down spout erosion dissipaters .

Existing Head Available and Points Where Measured:

7 ft +/- at downspouts to invert of pipe.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☒ Swale ☒ Other: filter strip/relocation of ice storage area

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) Dry swale with 1 foot ponding depth; leave inlets at existing elevation, add underdrain, treating 24,140 sq ft.

a) Relocation of ice storage, filter strip/or swale for area (total DA to inlets = 36,150 sq ft)

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☒ Other: ball fields, concession stands
Possible Conflicts Due to Adjacent Land Use? ☒ Yes ☐ No
If Yes, Describe: Pedestrian access during sporting events may be a problem with spectator safety crossing the swale

Access:
☐ No Constraints
Constrained due to
☐ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☒ Structures ☐ Property Ownership
☐ Other: Vending sheds

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☒	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

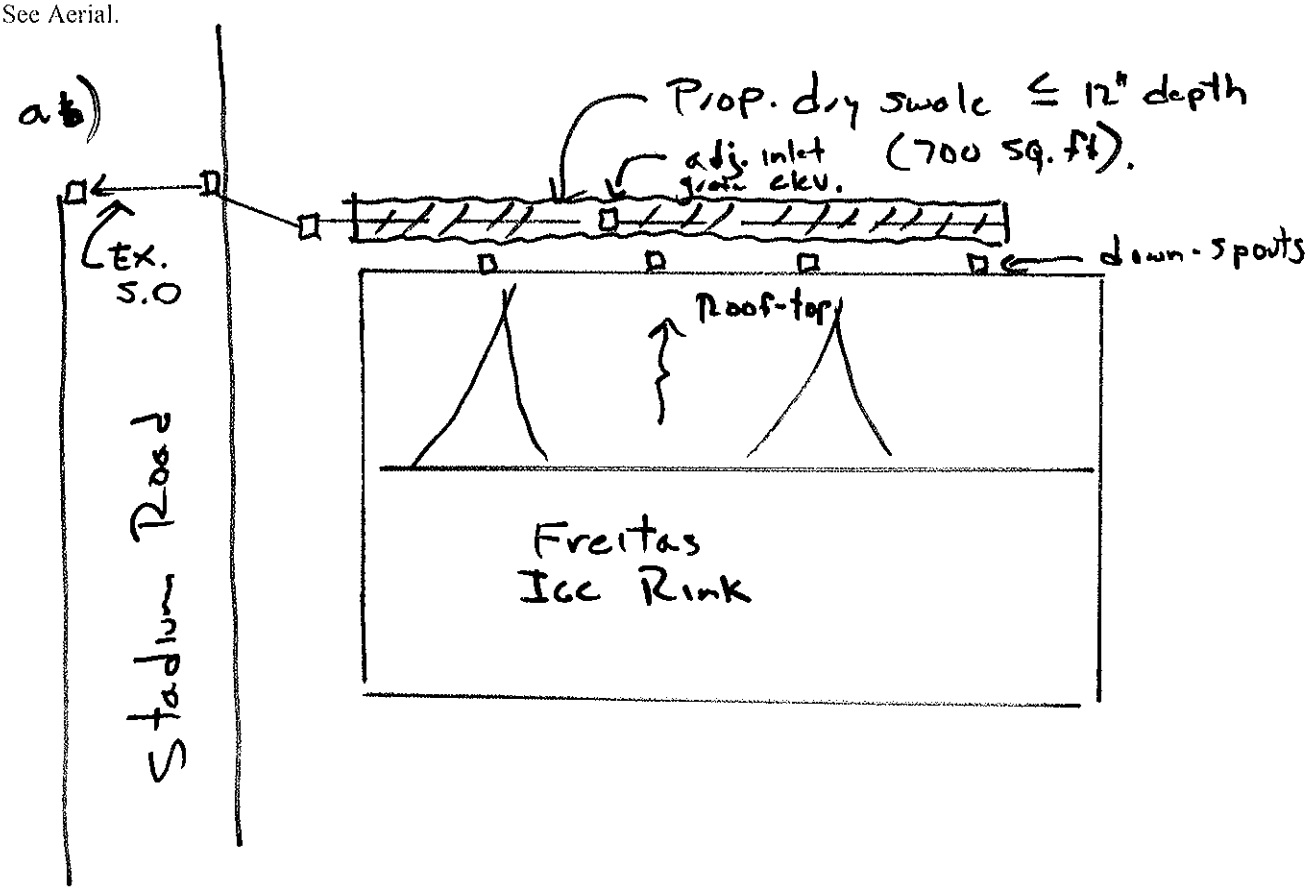
Other factors: Probable high groundwater in parking lot

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.



b) See aerial for sketch.

Unique Site ID: B-2 a&b

DESIGN OR DELIVERY NOTES

Site a swale could be very shallow to avoid conflicts with spectators.

Move dumpster away from storm drain (site b).

Add berm or swale in front of snow storage area and direct snowmelt away from paved surface.

Downspouts could be collected in cisterns and used to supplement irrigation to the field.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

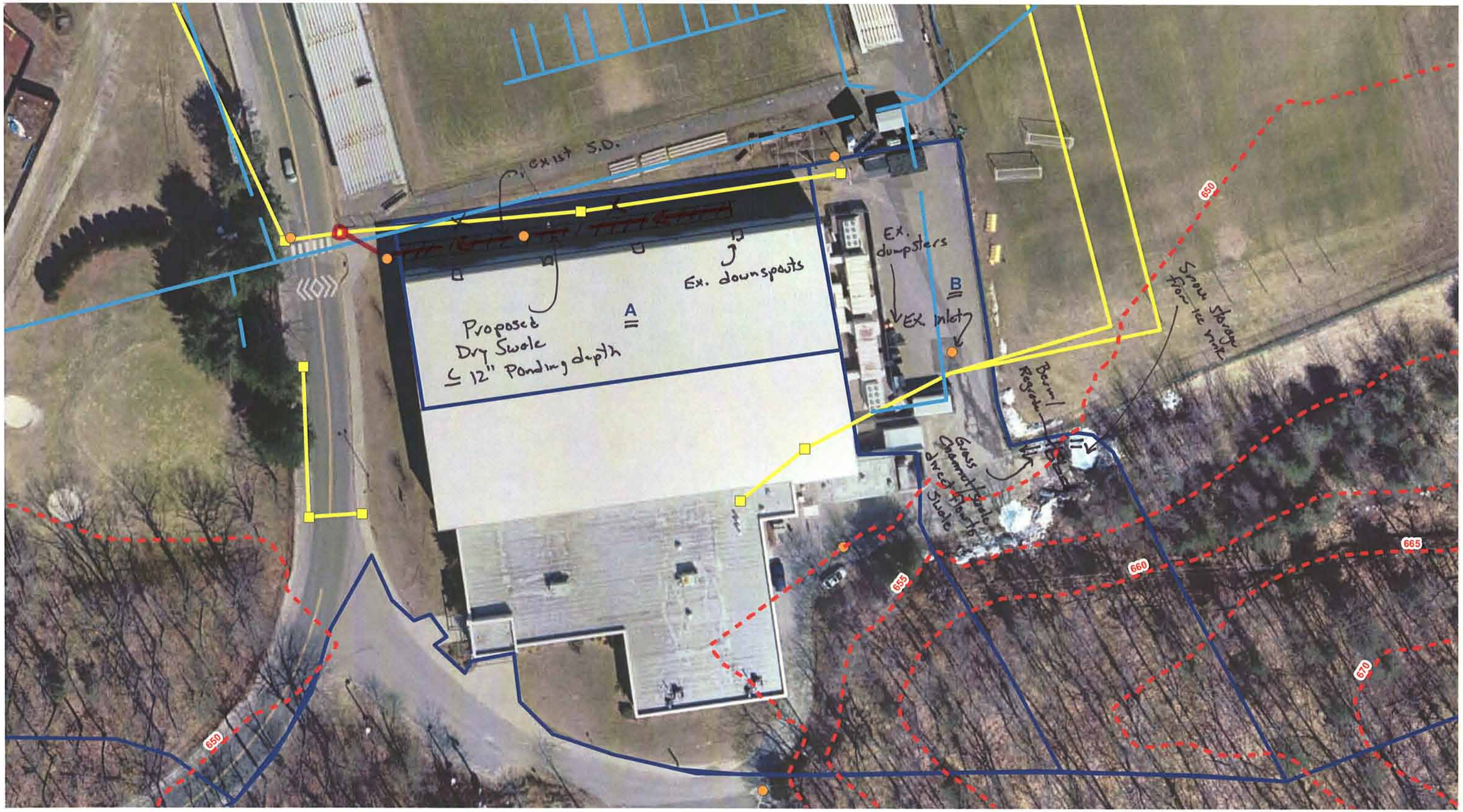
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible, but
Site a) may have constraints with spectators and safety concerns with a swale

Site b) snowmelt may not pose a concern during regular icing activities, likely only a potential water quality issue during complete ice replacement.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☒ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Pipes
- Watersheds

N

50 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-2

9/2/09 ec
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Figure B-2

WATERSHED: EAGLEVILLE BROOK	**SUBWATERSHED:**	**UNIQUE SITE ID:** B-3	
DATE: 7/14/09	**ASSESSED BY: RC/KC/LL (B-TEAM) JR/ET (DEP)**	**CAMERA ID: OLYMPUS RC'S PENTAX**	**PICTURES: 41-48 AND 1978-1981 (PENTAX)**
GPS ID: N/A	**LMK ID:** N/A	**LAT: N/A**	**LONG:** N/A

SITE DESCRIPTION

Name: Christian Field – Adjacent to batting cages.
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT X Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other: _____
- ☐ Above Roadway Culvert
- ☒ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 55.0 ac
Imperviousness ≈ 27.4 % (all sites) %
Impervious Area ≈ 15.1 ac (all sites)

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☒ Possible
If Yes, Describe:

Existing drainage pipe system collects runoff from pervious and impervious surfaces and discharges to Red Brook.

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Ex 24 inch Pipe runs along open area of fields with inlets, likely under baseball field, across Stadium Road.

Clearly part of conveyance is a former stream, thus should have shallow depth to groundwater.

Existing Head Available and Points Where Measured:

Unable to locate final inlets or manholes in vicinity of site, but pipe invert at outfall less than 5 feet.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☒ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☒ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: gravel based wetland system

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Proposed gravel based wetland system with forebay, designed offline with approx 4,700 sq ft of surface area available.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☒ Other: ball fields, batting cage
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other: DA large per avail surface area

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

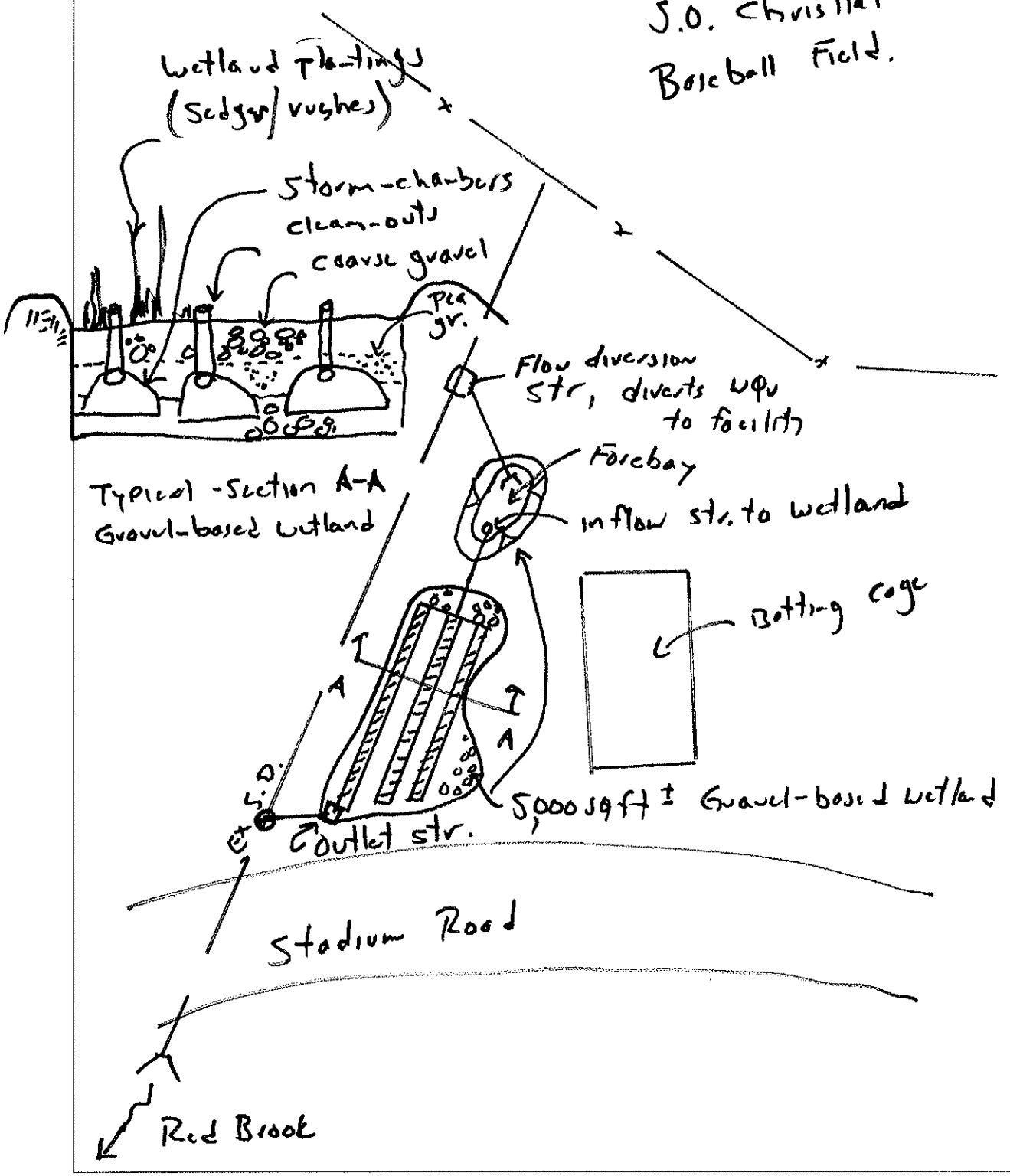
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.



Unique Site ID: B-3

DESIGN OR DELIVERY NOTES

Off-line design with diversion manhole

Upflow wetland will minimize required head

Surface area limits available treatment capability

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

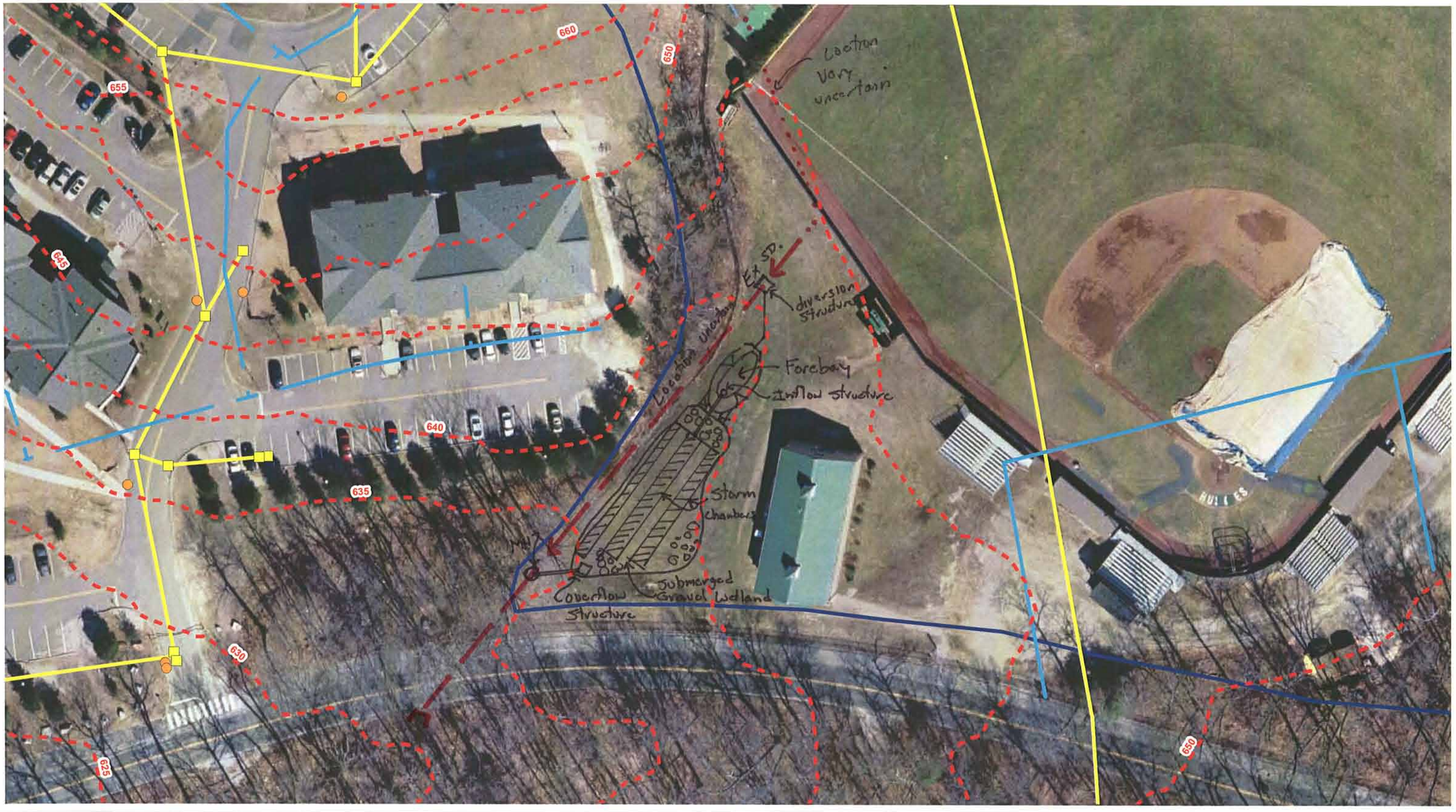
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible and very attractive, few locations on campus offer the ability to management significant volumes of runoff and impervious surface

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Pipes
- Watersheds

N

50 Feet

Horsley Witten Group
phone: 508 833 6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-3

9/2/09 ec
S:\19037 CWP-Eagleville Brook\GIS

Figure B-3

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-4 A-C	
DATE: 7/14/09	ASSESSED BY: RC/KC/ LL/JR/ET (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 1982-1987
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Parking Lot D
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☒ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 3.7 ac (all sites)
Imperviousness ≈ 76.2 %
Impervious Area ≈ 2.7 ac (all sites)

Notes: Large parking lot, ultimately drains to Site B-3

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Large parking lot currently drains to existing inlets and discharges in three directions towards Site B-3. Inlets drain fairly large areas. Snow storage is over the hill, resulting in large sand deposits beyond parking lot edge.

Existing Head Available and Points Where Measured:

No head limitations, site is on a hill at least 15 above Alumni Drive.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) terraced bioretention at western edge of parking lot. Currently water ponds along curb-line, very flat slope to ex. Inlet. Retrofit involve removing curb at parking lot edge to sheet flow into a forebay and then into bios, overflow back into storm drain system draining to B-3. Guard rail for vehicle safety will be needed.

b) area for bioretention obtained from re-striping parking lot spaces to minimum width (e.g. 8 feet) to maintain same number of spaces. Modify existing inlet as overflow.

c) diversion structure out of existing inlet and new pipe to bioretention areas adjacent to entrance drive to parking lot, overflow back into drainage system.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☒ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☒ Other: Site b requires re-striping

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☒	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

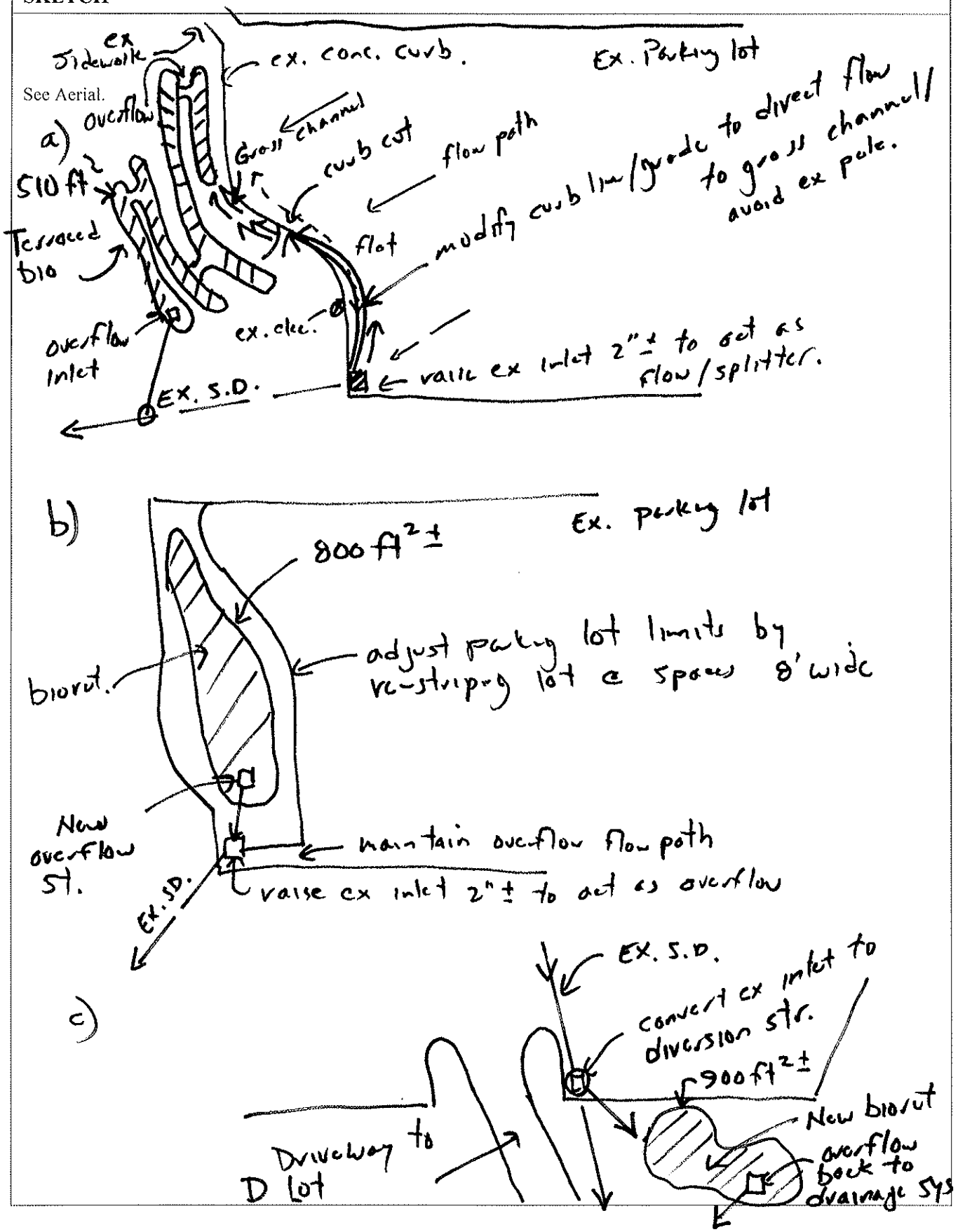
How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH



Unique Site ID: B-4 a-c

DESIGN OR DELIVERY NOTES

a) delivery by sheet flow to terraced bioretention, overflows to terraces using stone, weir walls or pipes (pipes more costly but less construction tolerance issues.

b) sheet flow to area currently occupied by drive isle.

c) flow spillter from existing drainage inlets to new pipe to bio at bottom of hill. Great opportunity for demonstration site.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible and good potential demonstration site. May not be necessary of Site B-3 is implemented, but on the other hand, since B-3 has area limitations, up gradient sites will reduce area/volume requirements downgradient.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Pipes
- Watersheds
- UCONN SW Yard Drains

N

50 Feet

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phone: 508 833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-4

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Figure B-4

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-5 A&B	
DATE: 7/15/09	ASSESSED BY: RC/PS/JR (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 1989-2014
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Parking Lot Y and 8 Lot
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☒ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 2.2 ac (all sites)
Imperviousness ≈ 82 %
Impervious Area ≈ 1.8 ac (all sites)

Notes: Large parking lot, ultimately drains to Site B-3

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☒ Yes ☐ No ☐ Possible
If Yes, Describe:

Lot 8 contains existing underground detention pipe systems with Vortechnic device (WQ Unity), designed offline. Detention consists of 15 rows of 48" dia pipes with cleanouts. Drainage to system is via 3 inlets a low end of parking lot; appears drainage bypasses inlets and slope damage to hillside reinforced slope is evident. Slope failure evident at Shenkman Training Center cut slope (unrelated to this structure), but appears to be from overland flow above slope (see photos).

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Y Lot is a large parking lot currently draining to existing inlets and discharges toward Lot 8 then towards Site B-3. Inlets drain fairly large areas. Snow storage is over the hill, resulting in large sand deposits beyond parking lot edge.

Existing Head Available and Points Where Measured:

No head limitations, existing inlets can serve as overflow back into drainage network.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) swales from both sides to bioretention system in center, existing inlet as overflow.

b) swales from both side to bioretention system in center, existing inlet as overflow.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☒	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

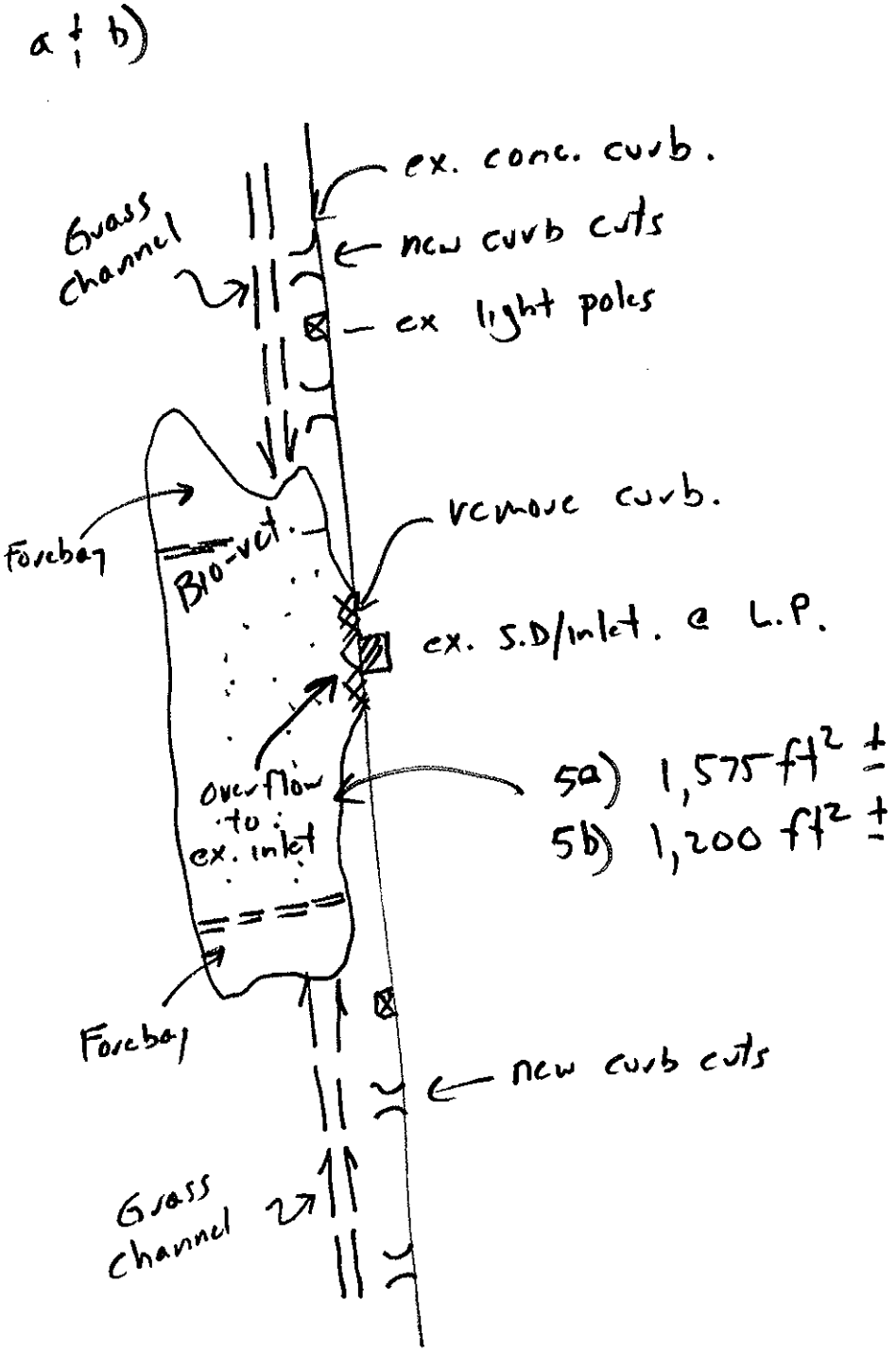
Other factors:_____

Soils:

Soil auger test holes:	☒ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

SKETCH

See Aerial.



Unique Site ID: B-5 a&b

DESIGN OR DELIVERY NOTES

a) delivery by sheet flow to swales (curbing to be remove or curb cuts provided), shallow swale along full length of parking lot western side to bioretention in center, use existing inlet (raised if necessary) for overflow.

b) Same as a.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible and good potential demonstration site. May not be necessary of Site B-3 is implemented, but on the other hand, since B-3 has area limitations, up gradient sites will reduce area/volume requirements downgradient.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Pipes
- UCONN SW Drainage Manholes
- UCONN Steam Pipes
- Watersheds

N

100 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-5

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Figure B-5

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-6 A-C	
DATE: 7/15/09	ASSESSED BY: RC/PS/JR (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: NONE
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Hillside Road and Access Drive to Lot 8
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☒ Other: access drive

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.5 ac (site c only)
Imperviousness ≈ 50 %
Impervious Area ≈ 0.4 ac (site c only)

Notes: Large parking lot, ultimately drains to Site B-3

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Lot 8 is a large parking lot currently draining to existing underground facility and then southwest to outfall into Red Brook (via proposed Site B-3), but some of the parking lot bypasses existing inlets and flows down the access drive from Hillside Road. Site B-6 consists of 3 sites, but only one is within the drainage area to Eagleville Brook (Site c). Some drainage that by-passes Lot 8 flows downgradient to existing inlets on the access drive that drain towards Hillside Drive.

Sites a & b) would be a good example for the landscape architect and applicable throughout the campus.

Existing Head Available and Points Where Measured:

No head limitations, existing inlets can serve as overflow back into drainage network.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Rooftop planter

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a & b) swales roadway with culverts to bioretention system, existing inlet as overflow.

c) rooftop planters to collect and treat runoff off of NE end of Co-op building, then small bioretention to collect runoff from access road.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☒ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

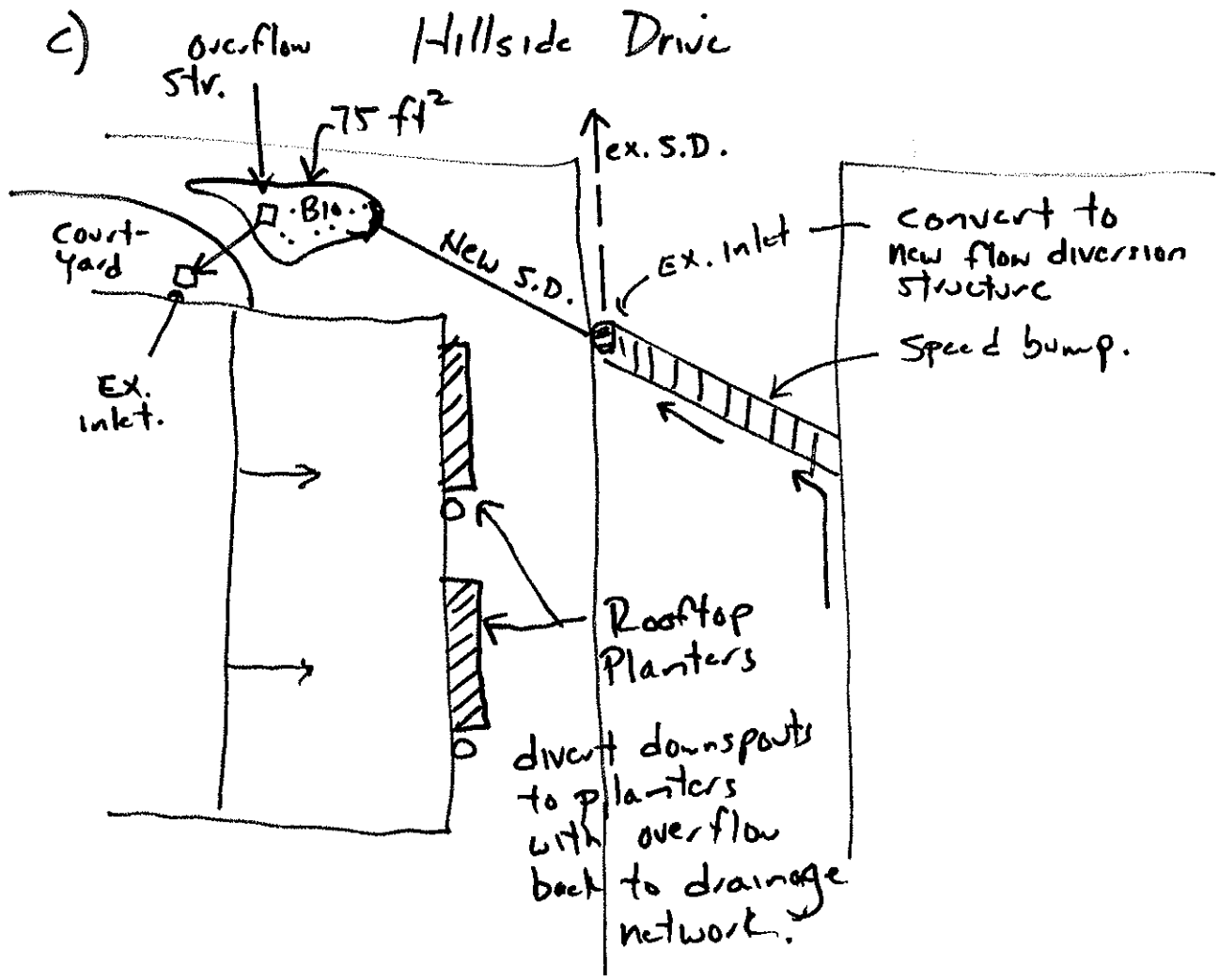
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.



Unique Site ID: B-6 a-c

DESIGN OR DELIVERY NOTES

a & b) delivery by sheet flow to swales (curbing to be remove or curb cuts provided), shallow swale along full length of SW side of Hillside Driave to bioretention, use existing inlets (raised if necessary) for overflow.

c) Downspout modification to planter. Trench drain in Lot 8 access drive to diversion manhole or inlet to bioretention adjacent to plaza in Co-op, overflow to existing inlets.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

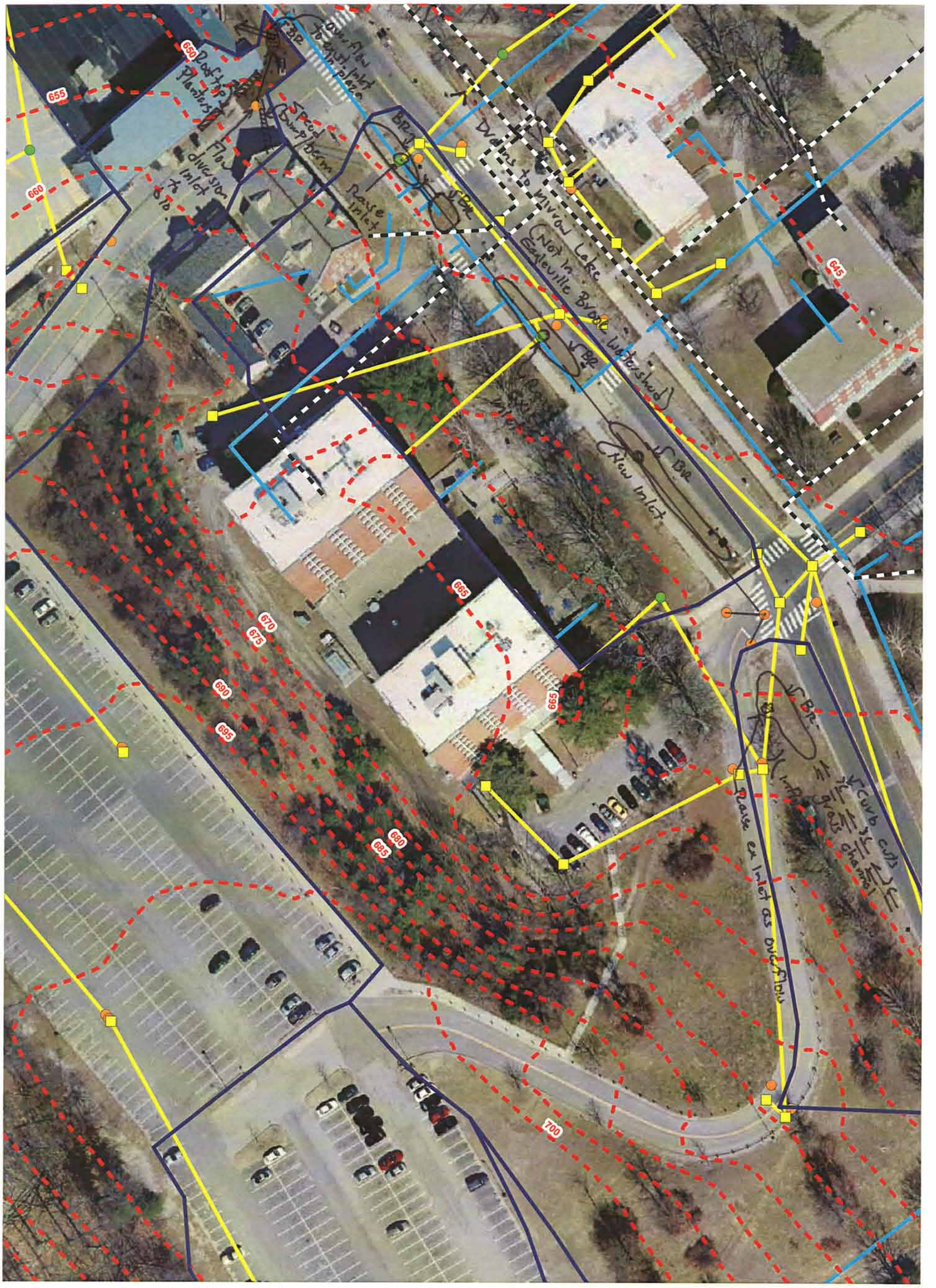
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible but sites a&b not within watershed, and Site c is small an will be costly, but high profile in plaza of Co-op.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



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Eagleville Brook TMDL
Site B-6

9/2/09 ec
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Figure B-6

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-7 A-G	
DATE: 7/15/09	ASSESSED BY: RC/PS/JR (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 2025-2070
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Memorial Stadium-Greer Field House-Uconn Foundation-Alumni Center
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☒ Other: access drive

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 4.1 ac (all sites)
Imperviousness ≈ 71 %
Impervious Area ≈ 2.0 ac (all sites)

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Existing paved access drive to stadium and field house, parking and offices, enclosed drainage inlets, and curbing.

Stadium bleachers drain to clogged inlets then to drainage network on Stadium Road.

Note, parking lot in front of field house has recently been replaced with porous concrete pavement.

Existing Head Available and Points Where Measured:

No head limitations.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☒ Infiltration ☒ Swale ☒ Other: Rooftop planter, permeable pvmt

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) swale to bioretention in small island in parking lot, overflow inlet back to drainage network.
b) bioretention in depressed area behind Alumni Center, inlets modified to bypass low flows.
c) rooftop downspout disconnection to rain garden/bioretention in side yard of Tasker Admissions Bldg.
d) bioretention in parking lot islands in Uconn Foundation, existing inlet as overflow.
e) bioretention in front lawn area of Alumni Center, modify inlet in parking lot to divert low flows to bio.
f) permeable asphalt or concrete.
g) green roof or rooftop planter for small roof area of Greer Field House.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

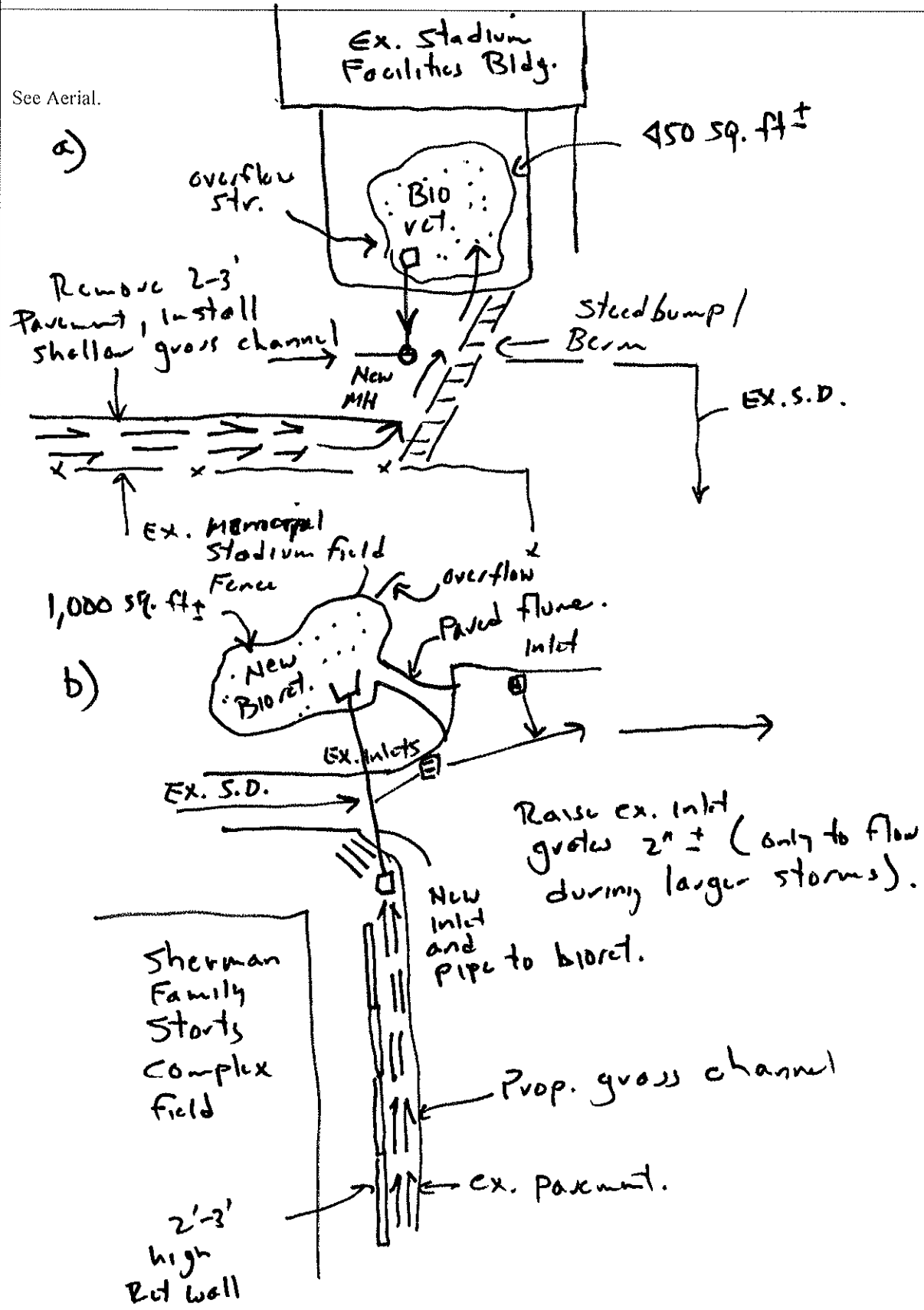
Other factors:_____
_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

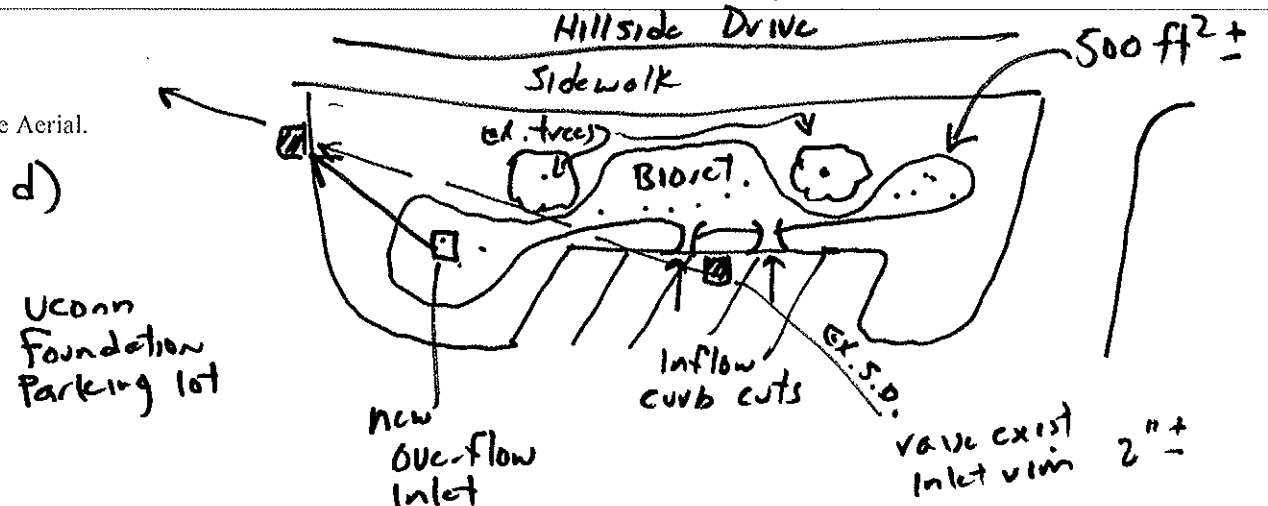
See Aerial.



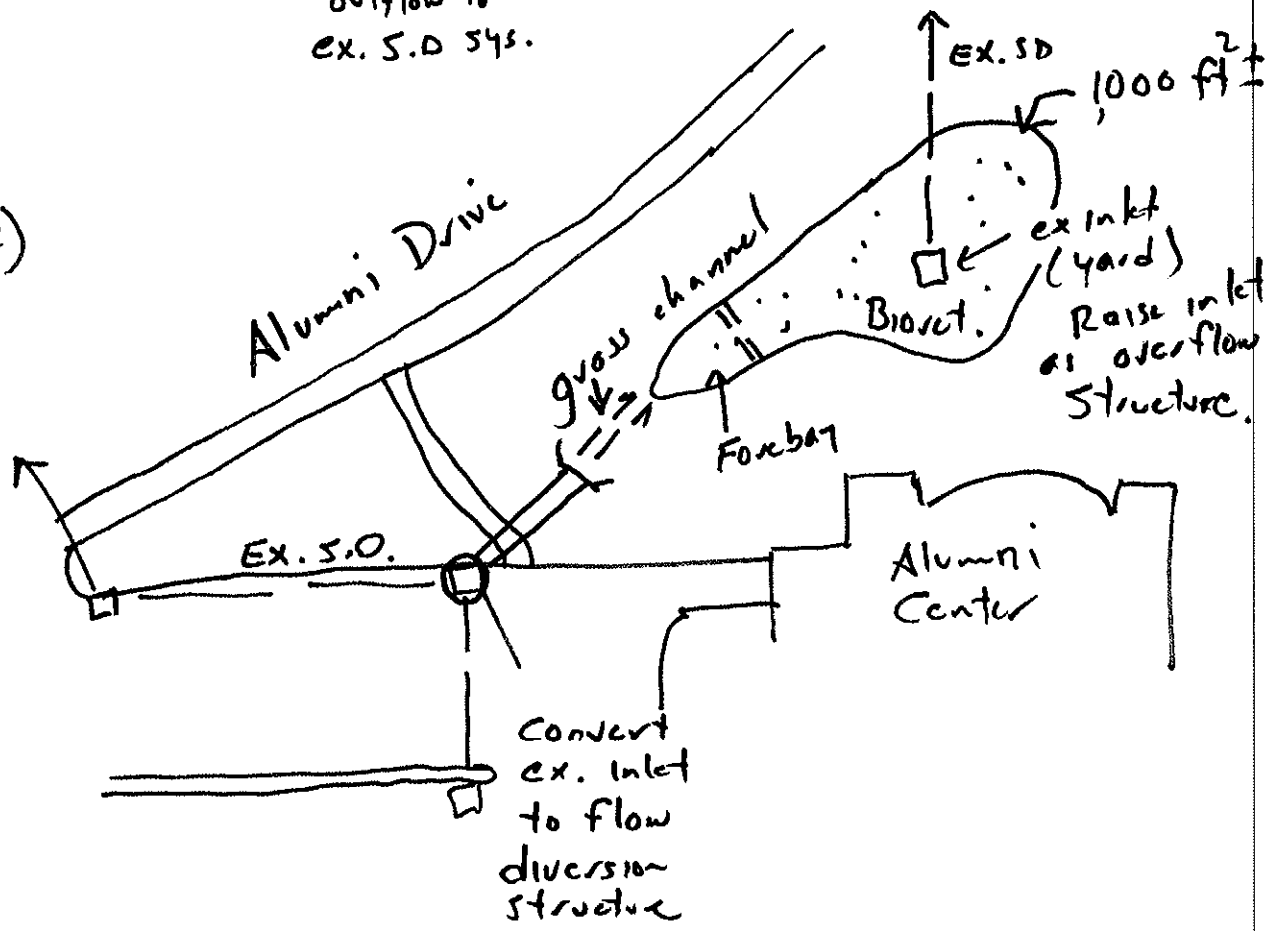
Unique Site ID: B-7 a-g

See Aerial.

d)



e)



DESIGN OR DELIVERY NOTES

a-g) dense area with several space limitations requires multiple practices to manage relatively small amount of impervious cover.

b) good site for bioretention, modify existing catch basins by raising rim elevations to allow small flow over bank into bio. Small wall and swale need to convey runoff from area along Sherman field complex to bio.

c) easy downspout modification to capture small rooftop area.

d) existing inlets to be modified as overflow from bio in parking lot island.

e) inlet in parking lot modified to flow-split small storms to bio area, larger storms to remain in existing drainage network.

f) only viable option is permeable pavement.

g) small area of sloping rooftop off of field house could be managed by green roof or by rooftop planter

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

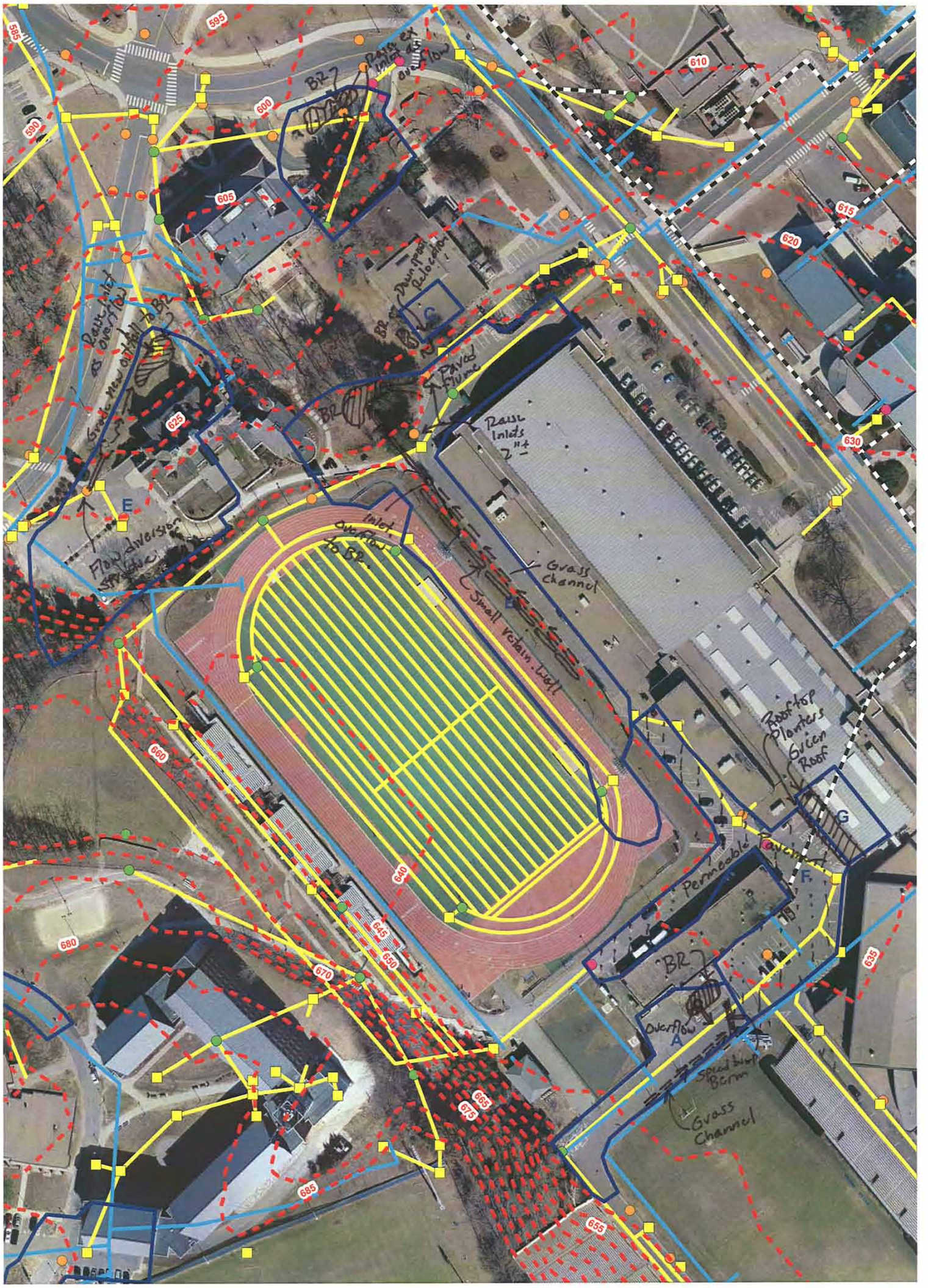
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible but all sites fairly constrained due to limited open space. Sites b and e are the most cost effective (see spreadsheet)

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Yard Drains
- UCONN SW Pipes
- UCONN SW Drainage Manholes
- UCONN Steam Pipes
- Watersheds

N

100 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-7

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-7

WATERSHED: EAGLEVILLE BROOK	**SUBWATERSHED:**	**UNIQUE SITE ID: B-8 A&B**	
DATE: 7/15/09	**ASSESSED BY: RC/PS/JR (B-TEAM)**	**CAMERA ID: OLYMPUS RC'S PENTAX**	**PICTURES:** 2016-2018, & 2020-2022
GPS ID:	**LMK ID:**	**LAT:**	**LONG:**

SITE DESCRIPTION

Name: South Parking Garage and Access Drive
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☒ Other: access drive

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 3.2 ac (both sites)
Imperviousness ≈ 94 %
Impervious Area ≈ 3.0 ac (both sites)

Notes: drainage area from parking garage could be diverted to Red Brook and site B-3.

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Parking deck scuppers drain along columns to existing enclosed drainage network. Deck and access drive currently drain to Stadium Road network, but could be diverted to System that drains past the Burton-Shenkman Facility to Red Brook

Existing Head Available and Points Where Measured:

No head limitations.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Re-use for irrigation of Memorial Stadium

Retrofit Volume Computations - Target Storage:

See Spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Green Roof and Cistern

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) green roof over central parking area on roof of garage.

b) cistern collects runoff from parking garage scuppers for re-use as irrigation for adjacent Memorial Stadium field. Could divert drainage from inlets in access road behind parking garage to draining network draining towards Red Brook.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

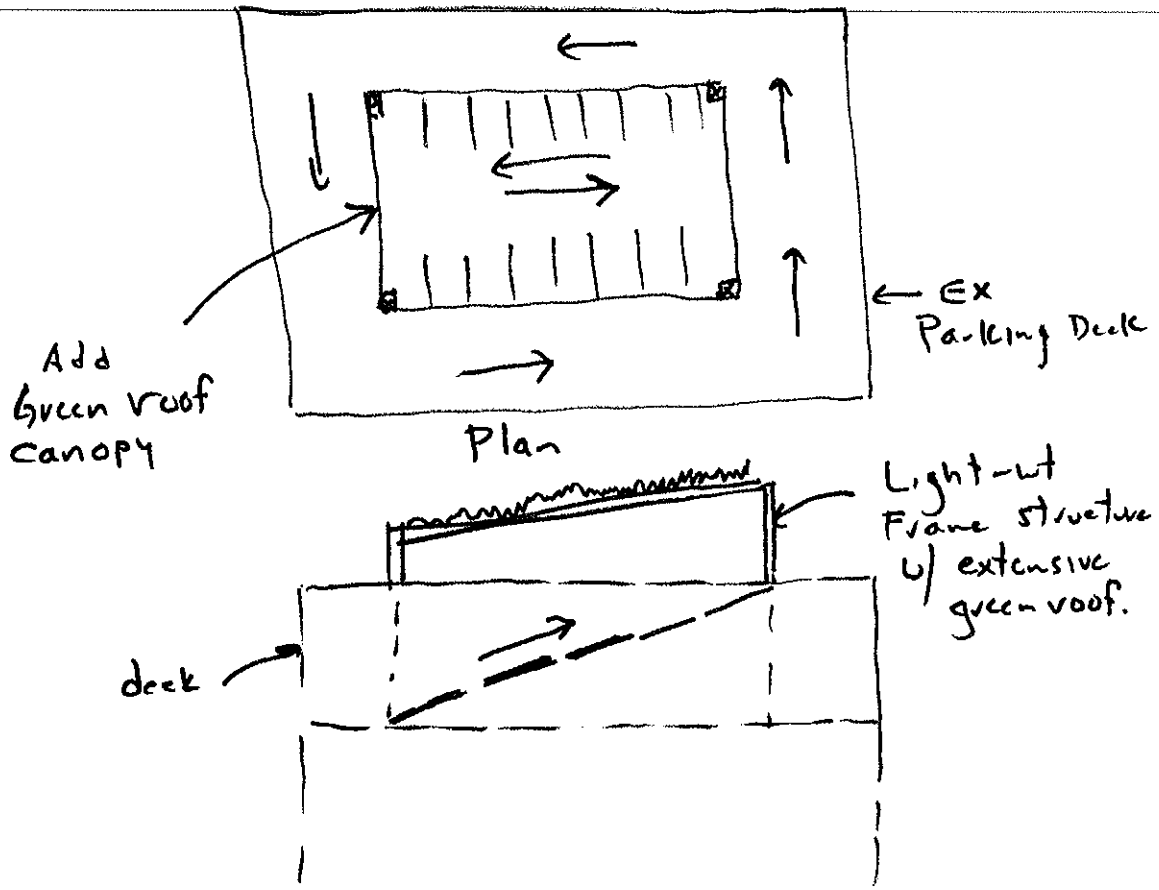
Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

SKETCH

See Aerial.

a)



b) Cistern - See aerial

DESIGN OR DELIVERY NOTES

a) rooftop canopy structure would be needed to cover central area of parking garage.

b) cistern for irrigation located as close as possible to field area. Would require pumps for irrigation, underground structure. Diversion of drainage from Stadium Road to Red Brook drainage feasible, but would need to verify system capacity and coordinate storage of Site B-3 with other up gradient sites such as B-4 and B-5.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

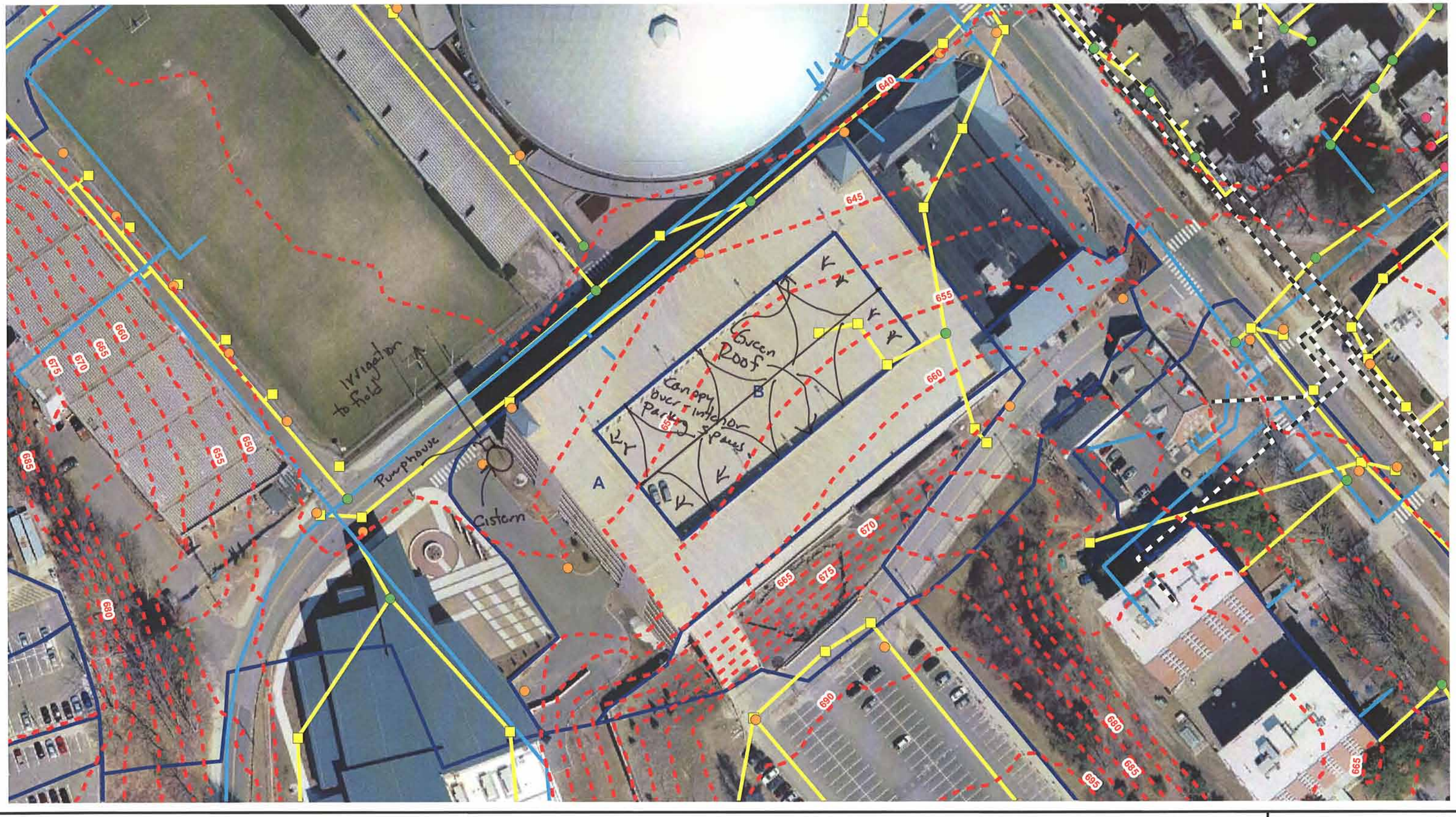
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☒ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible but costly given limited area treated.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Pipes
- Watersheds
- UCONN SW Yard Drains
- UCONN SW Drainage Manholes
- UCONN Steam Pipes

N

75 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-8

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-8

WATERSHED: EAGLEVILLE BROOK	SUBWATERSHED:	UNIQUE SITE ID: B-9 A-D	
DATE: 7/15/09	ASSESSED BY: RC/PS /JR (B-TEAM)	CAMERA ID: OLYMPUS RC'S PENTAX	PICTURES: 2073-2082
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Hilltop Residence Halls Driveway, Garrigus Suites Parking Lot and Driveway and Alumni Drive
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.9 ac (all sites)
Imperviousness ≈ 75 %
Impervious Area ≈ 0.7 ac (all sites)

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Four separate facilities. Overland flow from driveways and parking lots drain to existing inlets at driveway entrances and on Alumni Drive.

Existing turf areas have poor grass cover and significant compaction, soil amendments would be beneficial.

Existing Head Available and Points Where Measured:

No head limitations.

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:	**Retrofit Volume Computations - Available Storage:**
See Spreadsheet	See spreadsheet and sketch

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

a) bioretention to manage/treat small drainage area (8,120 sf) from driveway on both sides of entrance.

b) bioretention to manage/treat small parking lot (12,830 sf) within existing landscape island.

c) bioretention to manage/treat small driveway and entrance off Alumni Drive (7,570 sf).

d) swale to bioretention to manage/treat small section of Alumni Drive (9,350 sf).

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

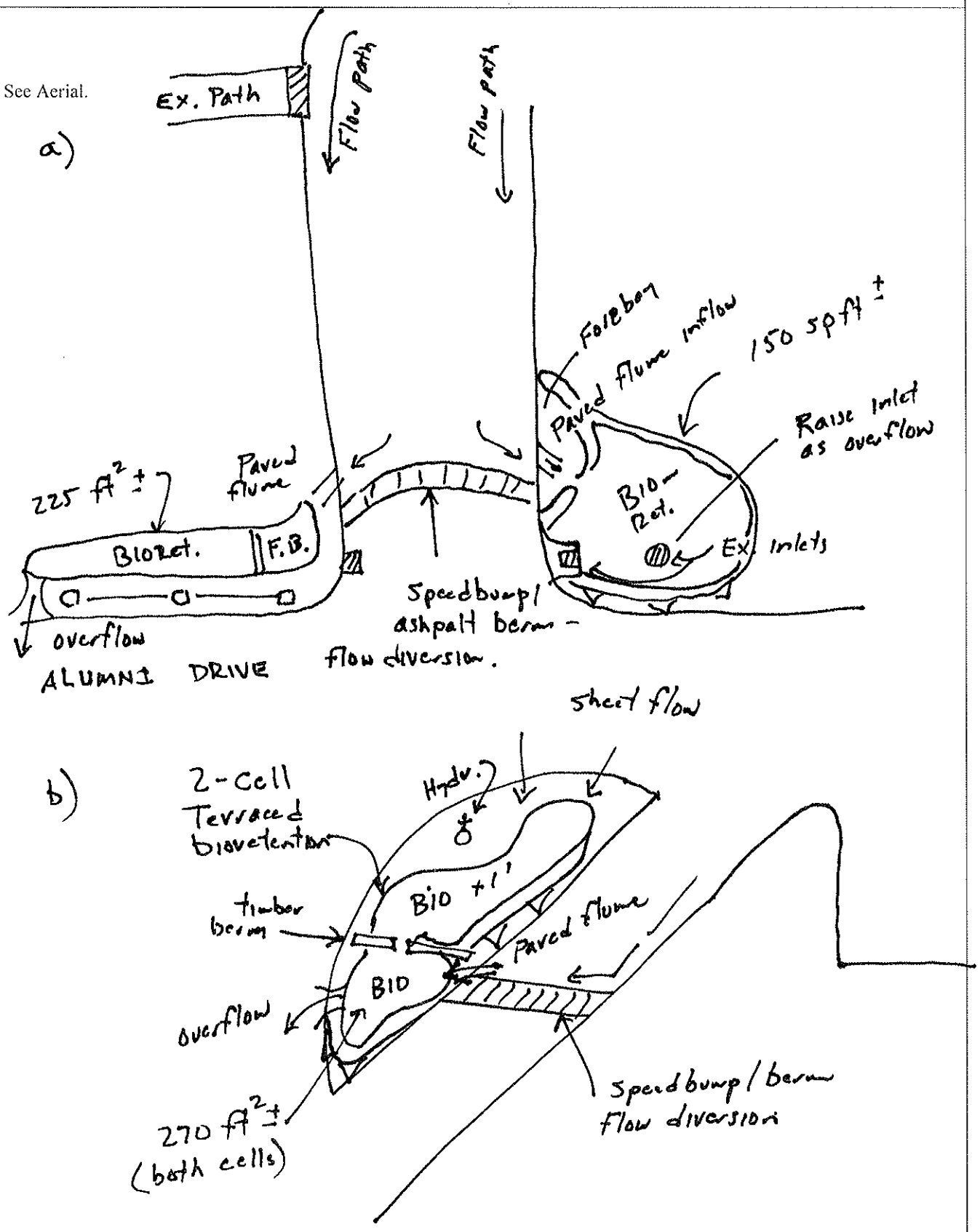
Other factors:_____
_____

Soils: Site B-9 d.

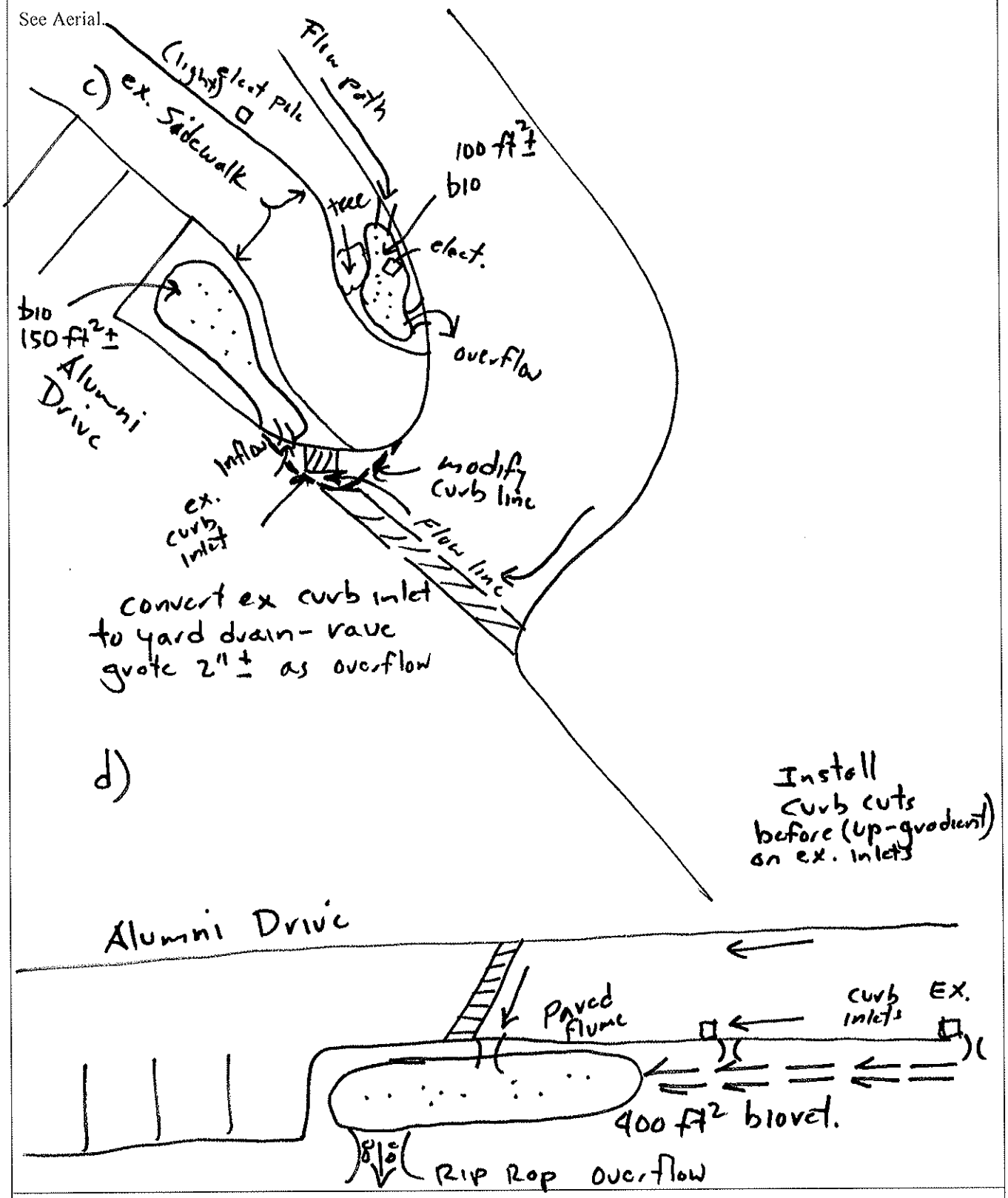
Soil auger test holes:	☒ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

SKETCH

See Aerial.



Unique Site ID: B-9 a-d



DESIGN OR DELIVERY NOTES

Unique Site ID: B-9 a-d

a) runoff diverted to bioretention area overland via asphalt berms and swales in turf areas. Soil amendments and small scale rain garden projects

b) runoff directed to bioretention in landscape island via sheet flow, some berming/speed bumps may be required.

c) bioretention area will require curb cut and speed-bump/berm to divert flows to facility, existing inlet as overflow.

d) swale as pretreatment and speed bump/berm to divert flow from both sides of street to facility.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

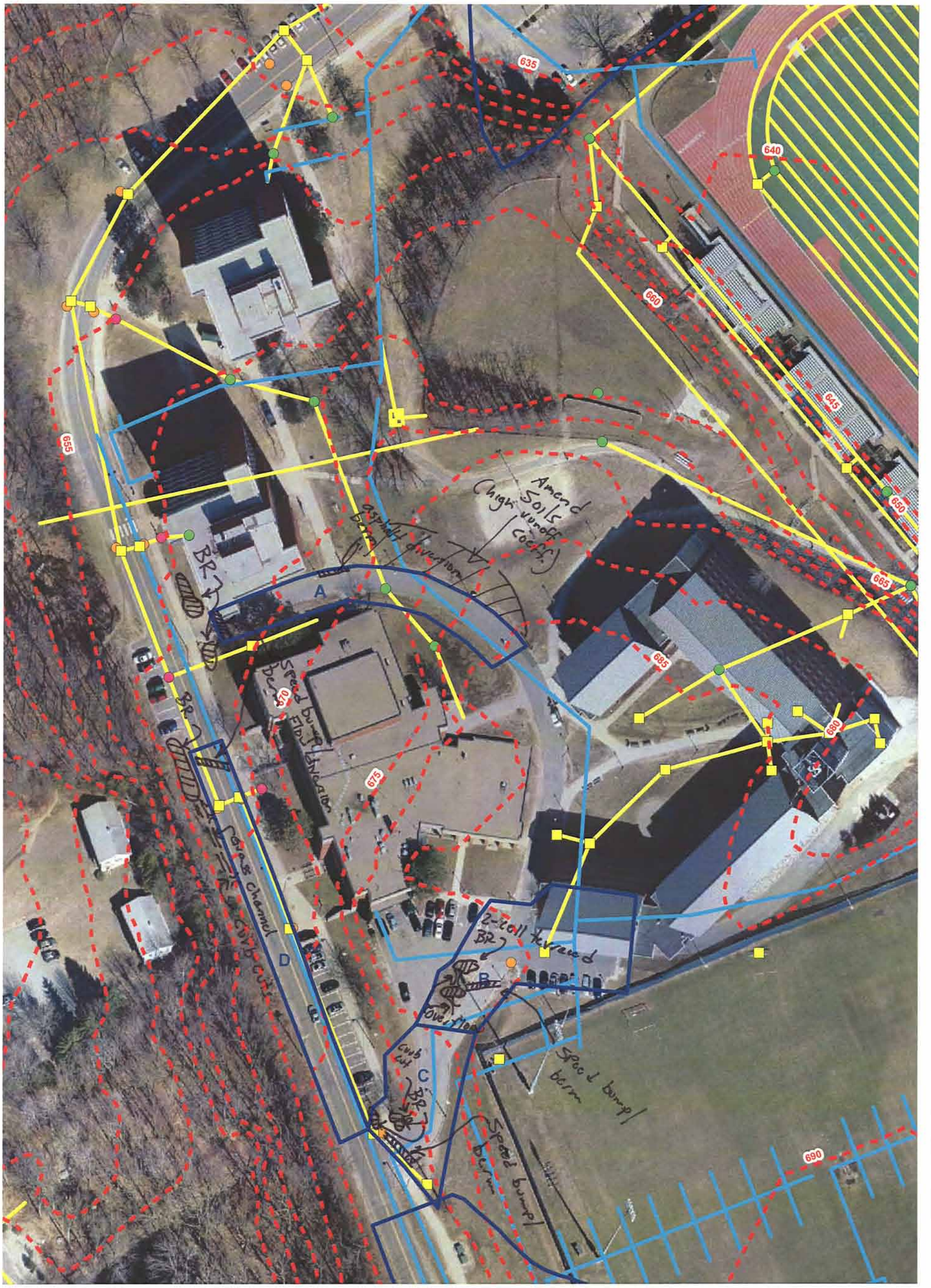
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

Feasible but costly given limited area treated.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____



Legend

- 5ft. Contours
- Storm Drains
- UCONN Water Pipes
- UCONN SW Catchbasins
- UCONN SW Yard Drains
- UCONN SW Pipes
- UCONN SW Drainage Manholes
- Watersheds

N

75 Feet

Horsley Witten Group
phone: 508-833-6600
www.horsleywitten.com

Eagleville Brook TMDL
Site B-9

9/2/09 ec
S:\9037 CWP-Eagleville Brook\GIS

Figure B-9

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C1	
DATE: 7/15/09	ASSESSED BY: ACK/RAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: School of Business
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop A, B, C
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape D
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:
(A) 0.137 / 100% / 2930
(B) 0.019 / 98% / 826
(C) 0.120 / 93% / 7260
(D) 0.793 acre / 54% / 18541 sf

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

External downspouts directly connected to stormdrain system. In rear of bldg runoff from irrigated landscaped area is conveying lots of mulch & sediment, that has clogged an existing trench drain.

Existing Head Available and Points Where Measured:

Unique Site ID: C1

DESIGN OR DELIVERY NOTES

- water harvested by the cistern can be used for site landscape irrigation.
- turf area near outdoor classroom should be restored. Soils are heavily compacted.
- All BR areas should have 6-9" ponding depth & underdrains. Underdrains should tie into existing stormdrain system.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping – detailed
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other: _____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

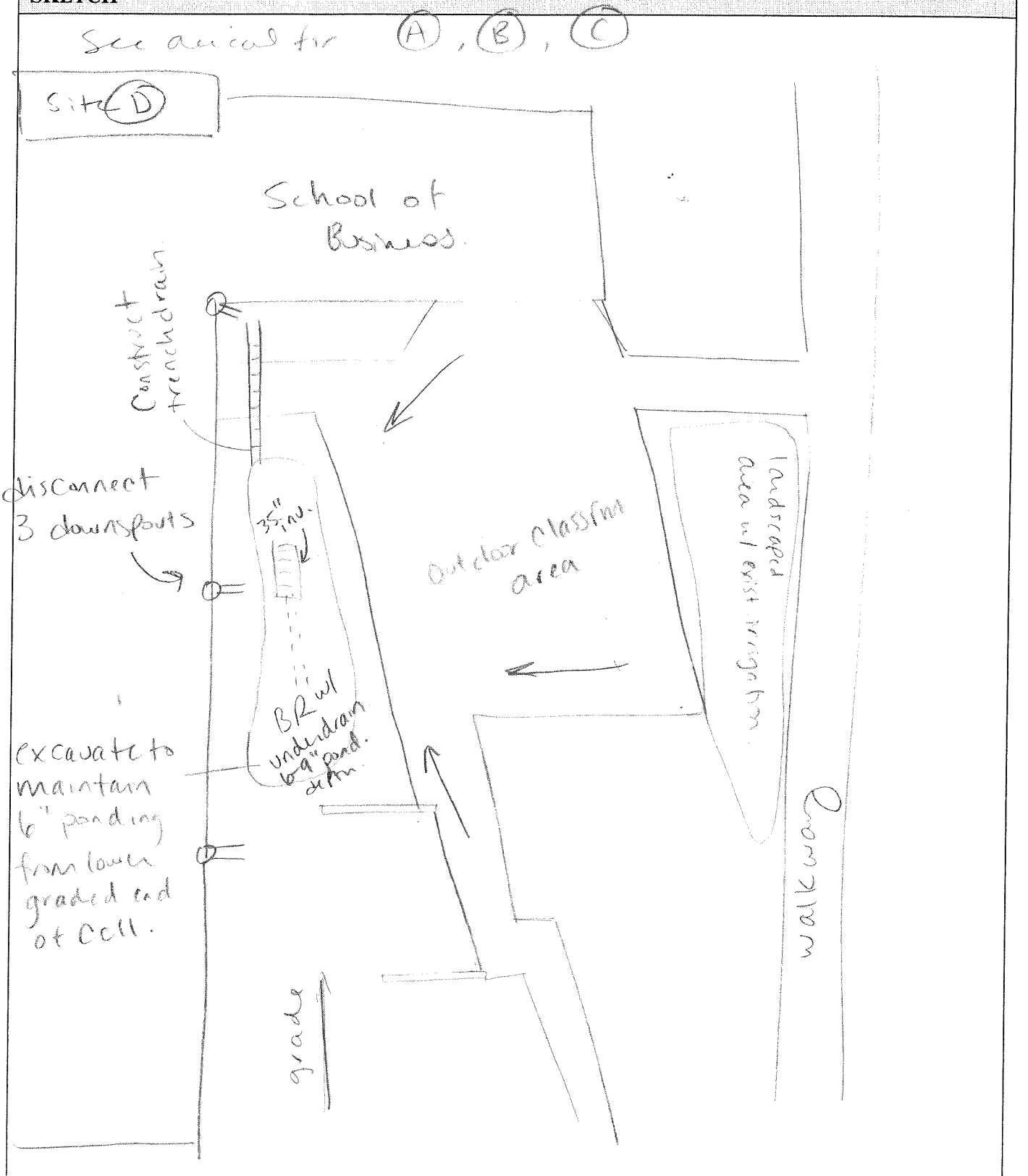
- BR areas would be good educational / demo sites. Students can be involved in planning / design / build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S): _____

Unique Site ID: C1

SKETCH



Construct BR area to capture runoff from 3 roof downspouts & overland flow from landscape / hardscape outdoor classroom area

Unique Site ID: C1

PROPOSED RETROFIT

Purpose of Retrofit:

☒ Water Quality (RGs.) ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

(A)	(B)	(C)	(D)
472CF	66CF	577CF	1535 LF CF

Retrofit Volume Computations - Available Storage:

(A)	(B)	(C)	(D)
TV= WQv	TV= WQv	TV= WQv	TV= 1375CF

Proposed Treatment Option:

☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention C, D
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Cistern or planter box

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(A) install Cisterns along Hillside Rd to capture roof runoff can also design planter boxes. Cisterns can be used for localized irrigation.
(B) Construct 2 planter boxes to capture downspout runoff
(C) Construct BR area to capture downspout runoff
(D) Construct BR area to capture rooftop + terrace area runoff

SITE CONSTRAINTS

Adjacent Land Use:

☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:

☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:

☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☒ (D)	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

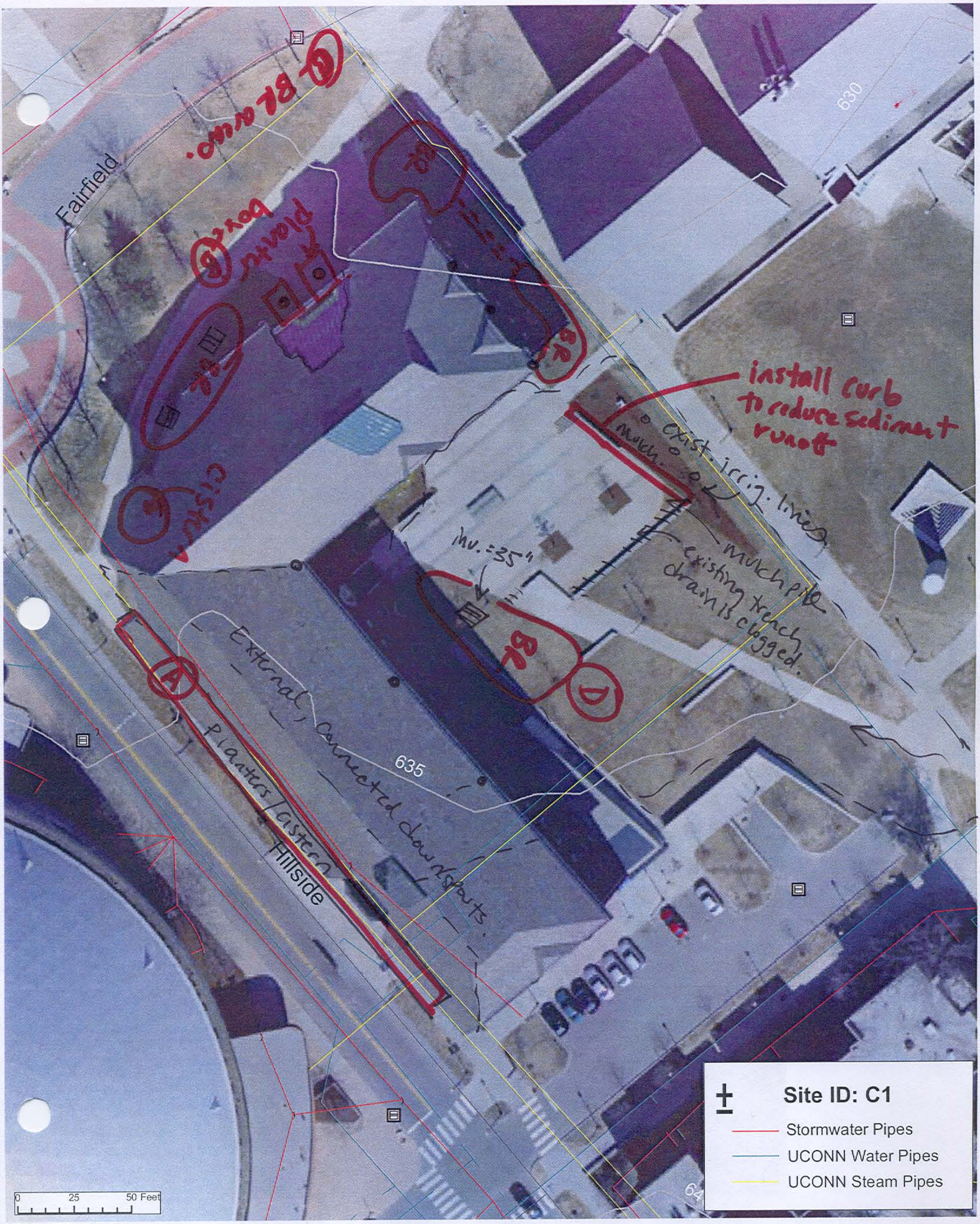
Other factors:_____

Soils:

Soil auger test holes:	Compaction/ fill	☐ Yes	☒ No
Evidence of poor infiltration (~~clays, fines~~):		☒ Yes	☐ No
Evidence of shallow bedrock:		☐ Yes	☒ No
Evidence of high water table (gleying, saturation):		☐ Yes	☒ No

Compacted turf

Unique Site ID: C1


Fairfield
630
635
Hillside
install curb to reduce sediment runoff
exist. irrig. lines
mulch pile
existing trench drain is clogged.
External, connected downspouts
Planters/cistern
Planter boxes
cistern
Site ID: C1
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C10	
DATE: 7/16/09	ASSESSED BY: RCK/KAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: North Parking Garage (NPARK)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown ☒ Other: UConn
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Individual Rooftop
- ☐ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.811 acres
Imperviousness ≈ 100 %
Impervious Area ≈ 35,331 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☒ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Parking Deck. Runoff from structure flows directly to storm drain system. No treatment.

Existing Head Available and Points Where Measured:

N/A

Unique Site ID: C10

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

WQv = 2797 cf

Retrofit Volume Computations - Available Storage:

Tv = WQv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Green Roof Deck

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- Construct GR Cover over top parking Deck

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☐ Institutional
☐ Industrial ☒ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Unique Site ID:_____

SKETCH

See aerial

Unique Site ID: C10

DESIGN OR DELIVERY NOTES

- similar to Concept B-8A

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C10


elevated GR
GR
GR
GR
585
580
590
Stadium
Hillside
Unnamed Street
Site ID: C10
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C11	
DATE: 7/16	ASSESSED BY: ACK JEK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Hillside Rd near HJT
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.234 acre
Imperviousness ≈ 97.81 %
Impervious Area ≈ 9984 sf

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

road runoff drains to CBs, then to Eagleville Brook

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [x] Demonstration / Education
- [ ] Recharge
- [ ] Repair
- [ ] Channel Protection
- [x] Other: Runoff Reduction
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

WQv = 791 CF

Retrofit Volume Computations - Available Storage:

Tv = WQv

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Filtering Practice
- [ ] Wet Pond
- [ ] Infiltration
- [ ] Created Wetland
- [ ] Swale
- [x] Bioretention
- [ ] Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- block 3 road inlets & construct curb cut & grass swale to convey road runoff to grassed area. Construct terraced BR area w/ 6-9" ponding depth & tie underdrain into existing storm drain.

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [x] No

If Yes, Describe:

Access:
- [ ] No Constraints
- Constrained due to terraced design
  - [x] Slope
  - [ ] Utilities
  - [ ] Structures
  - [ ] Space
  - [ ] Tree Impacts
  - [ ] Property Ownership
  - [ ] Other:

Conflicts with Existing Utilities:
- [x] None
- [ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[ ] Probable	[x] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[ ] Probable	[x] Not Probable
Impacts to Specimen Trees	[ ] Probable	[x] Not Probable

How many?_____

Approx. DBH_____

Other factors:_____

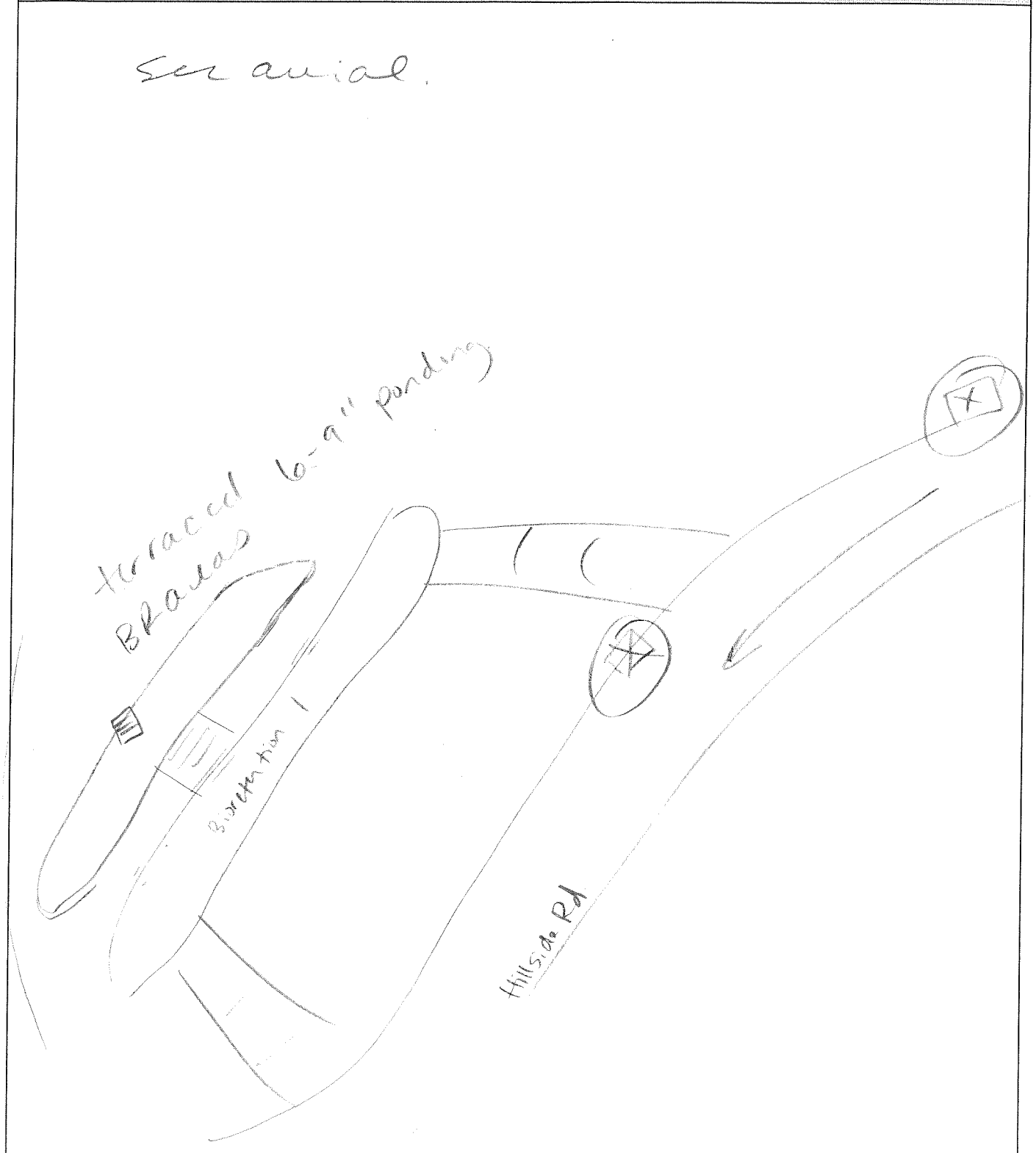
Soils:

Soil auger test holes:	[ ] Yes	[x] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[x] No
Evidence of shallow bedrock:	[ ] Yes	[x] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[x] No

likely need underdrain

Unique Site ID: C11

SKETCH



Unique Site ID: C11

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

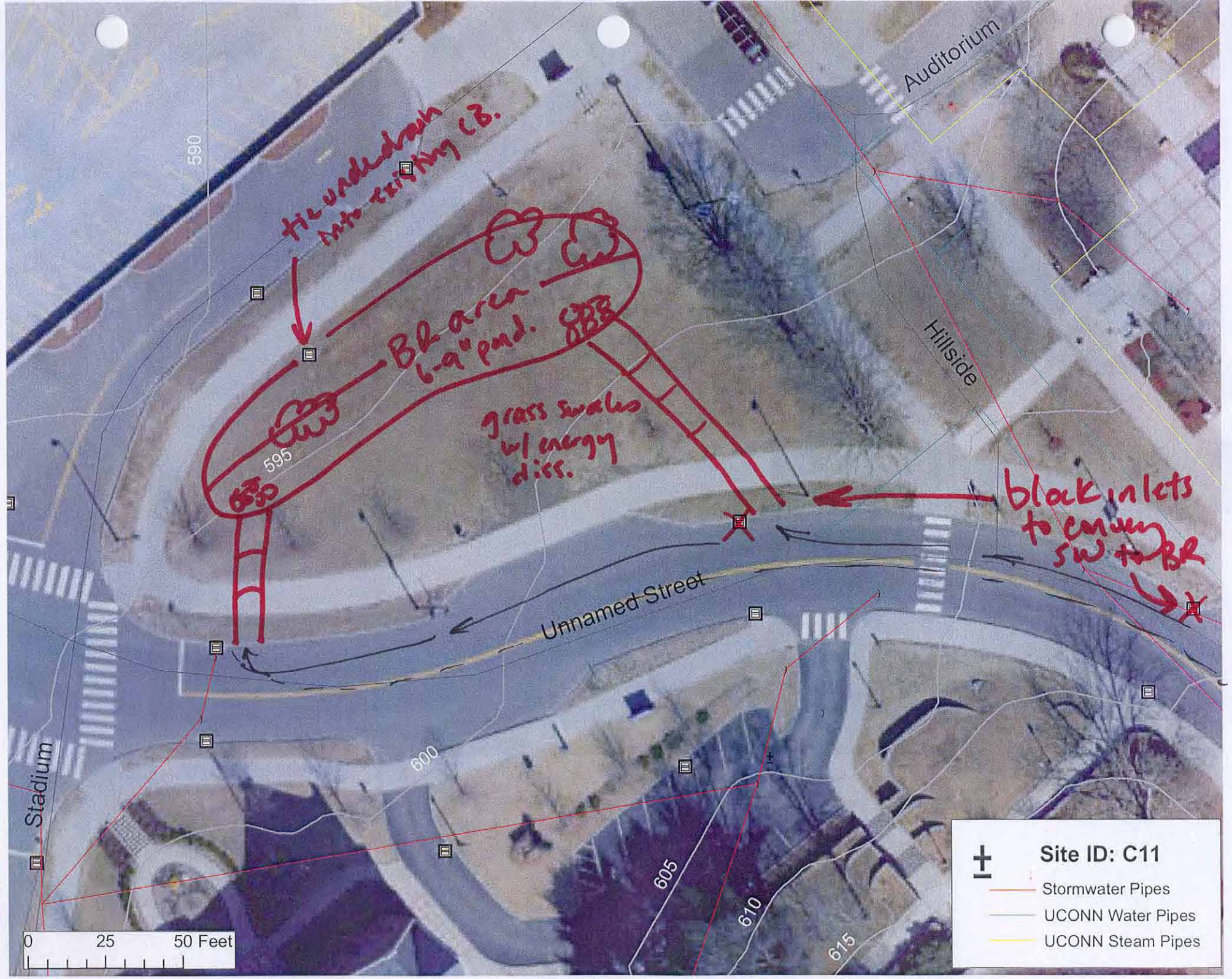
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

+ Good education/demo project. Can involve students in design/build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C11


Auditorium
Hillside
Unnamed Street
Stadium
590
595
600
605
610
615
HL underdrain into existing CB.
BR area 6-9" pvd.
grass swales w/ energy diss.
block inlets to convey SW to BR
0
25
50 Feet
Site ID: C11
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C12	
DATE: 7/16/09	ASSESSED BY: RAC/MK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Harriet S. Jorgensen Theatre (HJT

Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot (A)
- ☒ Individual Street (C)
- ☐ Underground
- ☒ Individual Rooftop (B)
- ☒ Small Impervious Area (A)
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

a	b	c
0.350	0.817	0.123 acre
99	100	100 %
15206	35607 sf	5378 sf

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

internal roof drains are connected directly to stormdrain system.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Runoff reduction

Retrofit Volume Computations - Target Storage:

a	b	c
1204 CF	2419 CF	426 CF

Retrofit Volume Computations - Available Storage:

TV = WQv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(A) replace asphalt parking lot & concrete patio w/ permeable pavement.

(B) Construct Green roof on bldg

(C) install street trees along Jorgenson Rd to treat roadway runoff.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☒	Electric to Streetlights (C)
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

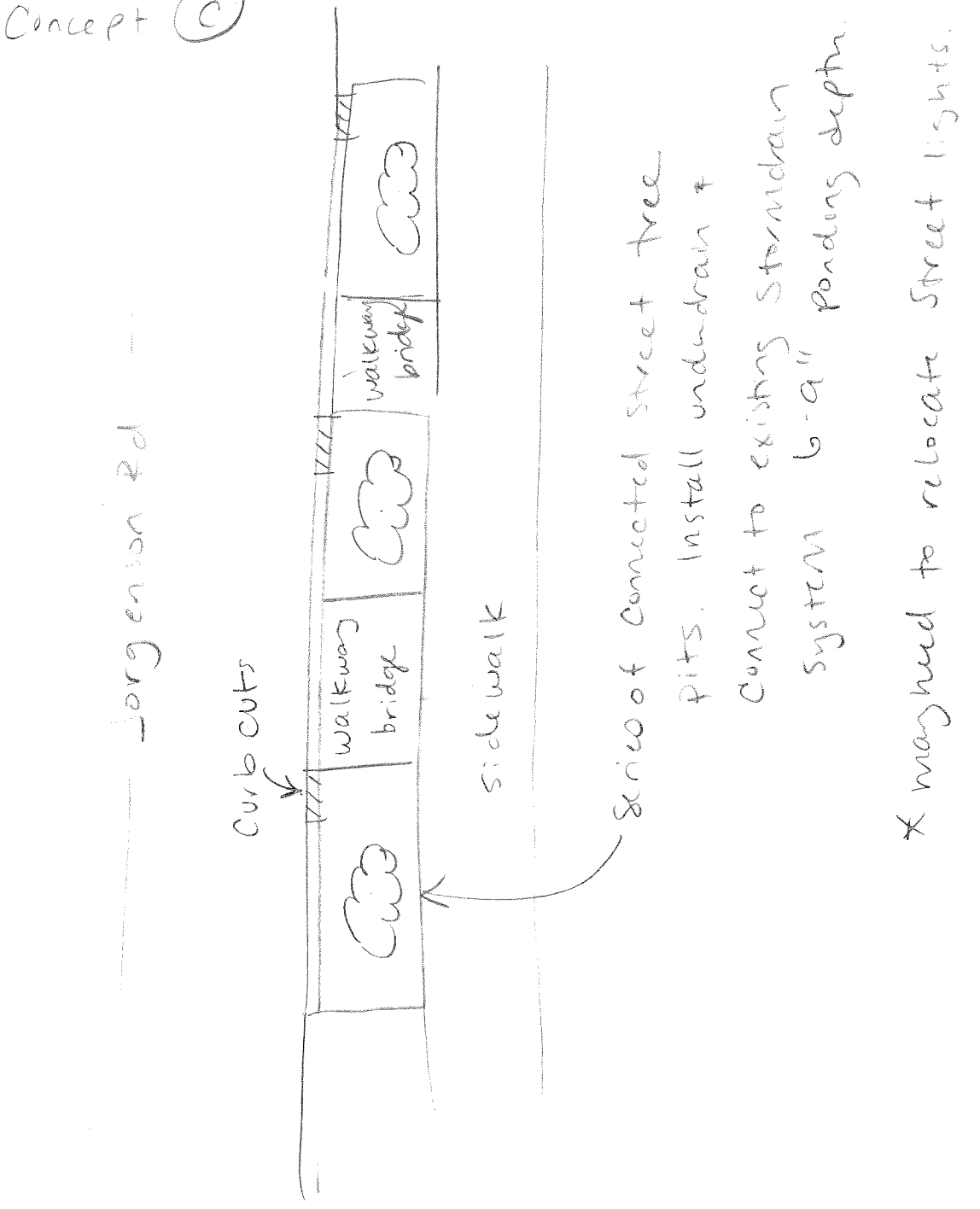
Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Unique Site ID: C12

SKETCH

See aerial for sites (A), (B).

Concept (C)



Unique Site ID: C12

DESIGN OR DELIVERY NOTES

- Need to Confirm structural roof capacity before designing green roof.
- PP system would need to include underdrains in design.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

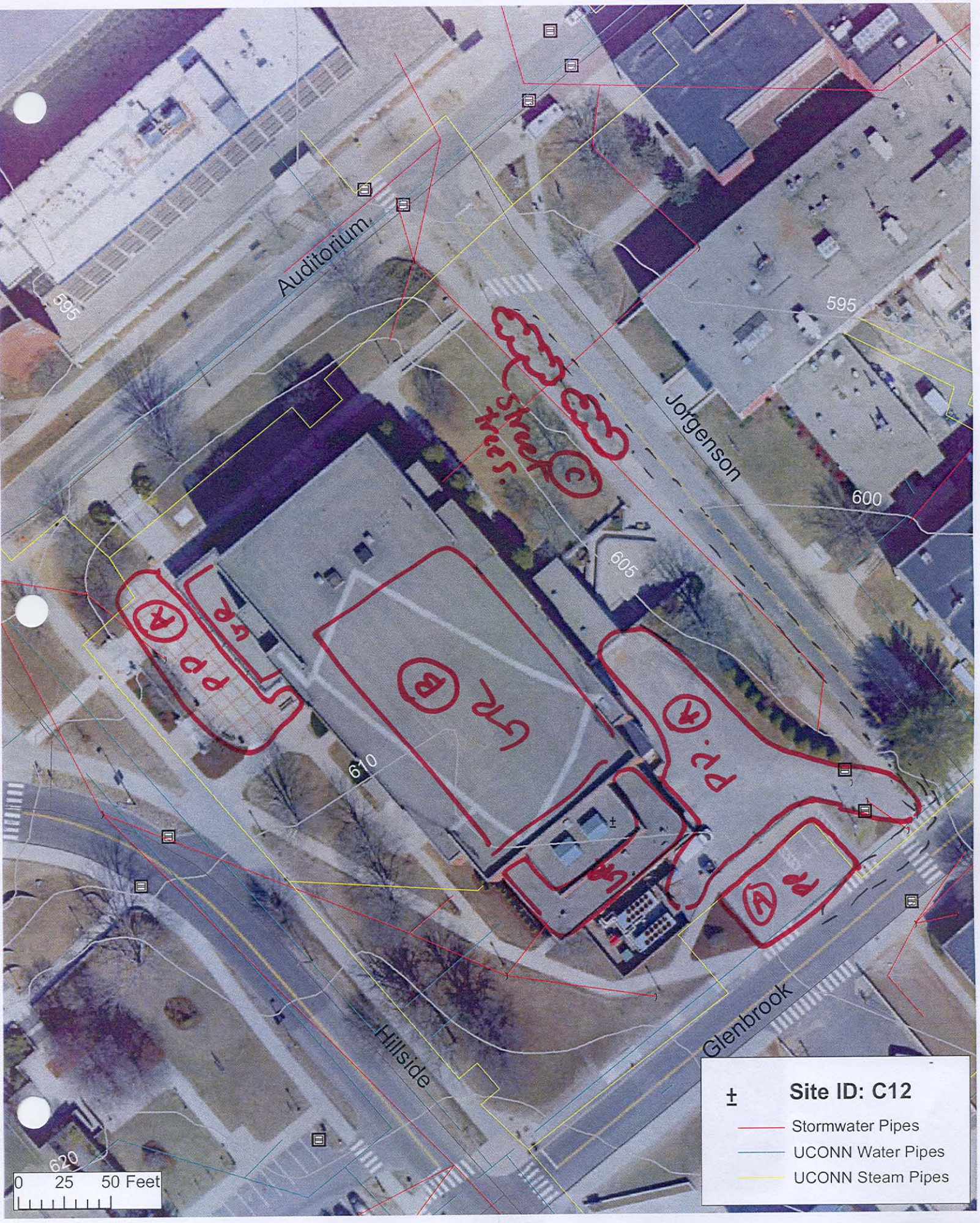
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Project (C) is a good project for student involvement

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C12


Auditorium
595
595
Jorgenson
600
605
610
620
Hillside
Glenbrook
0 25 50 Feet
Site ID: C12
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C13	
DATE: 7/16/09	ASSESSED BY: KAC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Engineering Bldg (UTEB)
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn.

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other: _____

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes: a: 0.286 ac, 85, 10594 SF | b: 0.179 acre, 100 %, 7816 SF

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

internal roof drainage on Bldg
roadrunoff drains to storm drain system

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☒ Other: Runoff Red.

Retrofit Volume Computations - Target Storage:

a: 846 cf | b: 619 cf

Retrofit Volume Computations - Available Storage:

TV = WQv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(A) Construct BR area to capture road way & sidewalk runoff

(B) install green roof on lower portion of older engr. bldg.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Possible (B) Conflict w/ roof utilities?

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

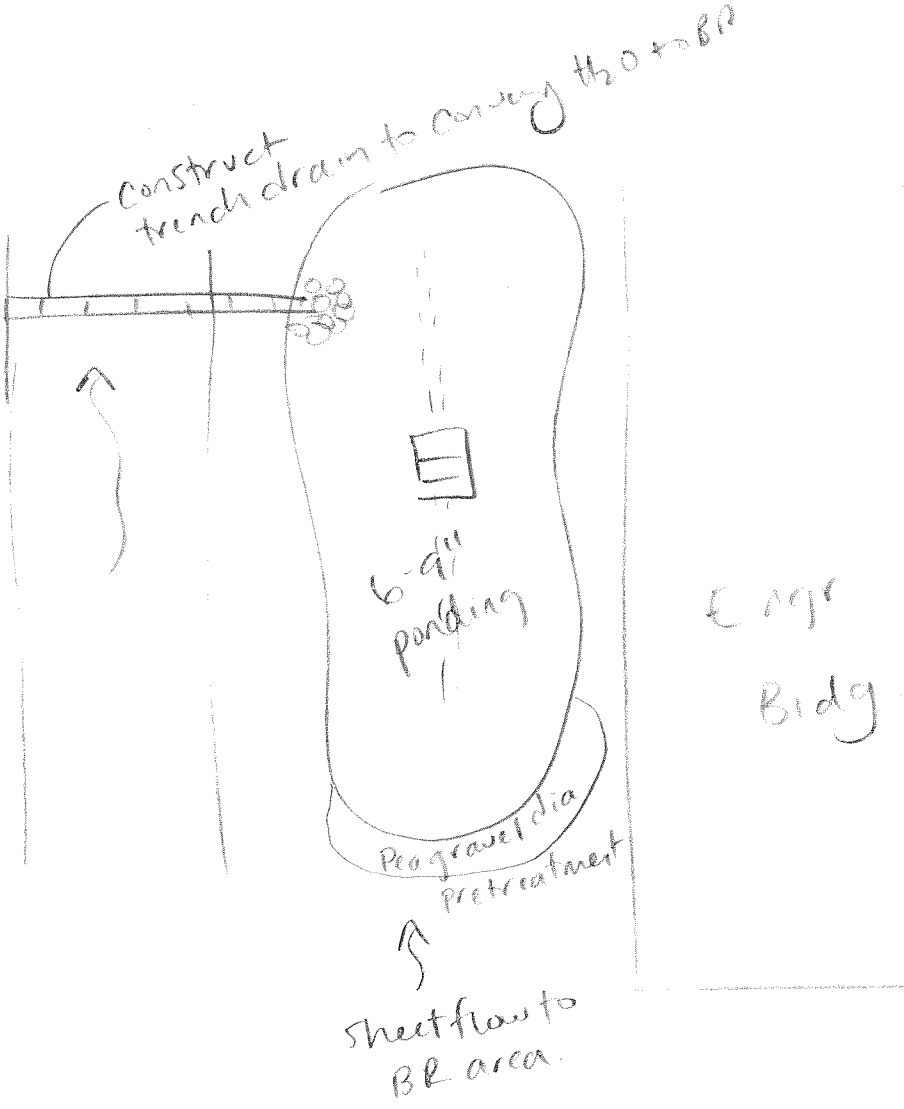
Soil auger test holes:	☐ Yes ☐ No	
Evidence of poor infiltration (clays, fines):	☐ Yes ☐ No	N/A. Assume compacted.
Evidence of shallow bedrock:	☐ Yes ☐ No	
Evidence of high water table (gleying, saturation):	☐ Yes ☐ No	

Unique Site ID: B13

SKETCH

(B) → see aerial.

(A)



Unique Site ID: C13

DESIGN OR DELIVERY NOTES

- Confirm soil types.
- Check inv. elevation of CB at (A) to determine depth of media.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☒ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good education/demo project. Students can be involved w/ design / build. at (A)

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: CB


Auditorium
Jorgenson
595
600
605
GR
GR
BR
0 25 50 Feet
Site ID: C13
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C14
DATE: 7/16/09	ASSESSED BY: KAC/ACK	CAMERA ID:
PICTURES:		
GPS ID:	LMK ID:	LAT:
LONG:		

SITE DESCRIPTION

Name: Auditorium Rd - near Jorgensen Rd intersection @ HJT bldg
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.047 ac
Imperviousness ≈ 100 %
Impervious Area ≈ 2043 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

road runoff drains to CB, no treatment.
Area is temporary parking area.
appears to be under construction → replacing asphalt w/ paver blocks? (non-permeable)

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other: Runoff reduction

Retrofit Volume Computations - Target Storage:

162 cf

Retrofit Volume Computations - Available Storage:

$T_V = WQ_V$

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Perm Pave

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- design area as permeable pavement

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☑	Electric to Streetlights ?
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

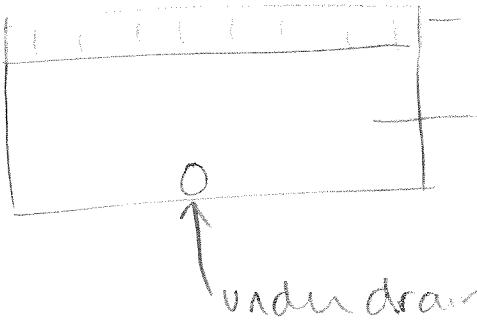
Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Underlying soils likely Compacted

Unique Site ID: C14

SKETCH

- See aerial.



Unique Site ID: C14

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C14


595
600
605
Auditorium
PP.
Site ID: C14
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C15
DATE: 7/16/09	ASSESSED BY: ACK/KAC	CAMERA ID:
PICTURES:		
GPS ID:	LMK ID:	LAT:
LONG:		

SITE DESCRIPTION

Name: Gant Science Complex
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.269 acre
Imperviousness ≈ 100 %
Impervious Area ≈ 11711 sf

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Plaza is a roof w/ tiles. Water drains through tile voids & is drained by an underlying drain system.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [x] Demonstration / Education
- [ ] Recharge
- [ ] Repair
- [ ] Channel Protection
- [x] Other: Runoff Reduction.
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

927 cf

Retrofit Volume Computations - Available Storage:

$T_V = WQ_V$

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Filtering Practice
- [ ] Wet Pond
- [ ] Infiltration
- [ ] Created Wetland
- [ ] Swale
- [x] Bioretention
- [x] Other: Green roof / Planters.

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- install multiple intensive green roofs or planter boxes to capture rainfall.

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:_____

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [x] No

If Yes, Describe:

Access:
- [x] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [ ] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:_____

Conflicts with Existing Utilities:
- [x] None
- [ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[ ] Not Probable
Impacts to Wetlands	[ ] Probable	[ ] Not Probable
Impacts to a Stream	[ ] Probable	[ ] Not Probable
Floodplain Fill	[ ] Probable	[ ] Not Probable
Impacts to Forests	[ ] Probable	[ ] Not Probable
Impacts to Specimen Trees	[ ] Probable	[ ] Not Probable

How many?_____

Approx. DBH_____

Other factors:_____

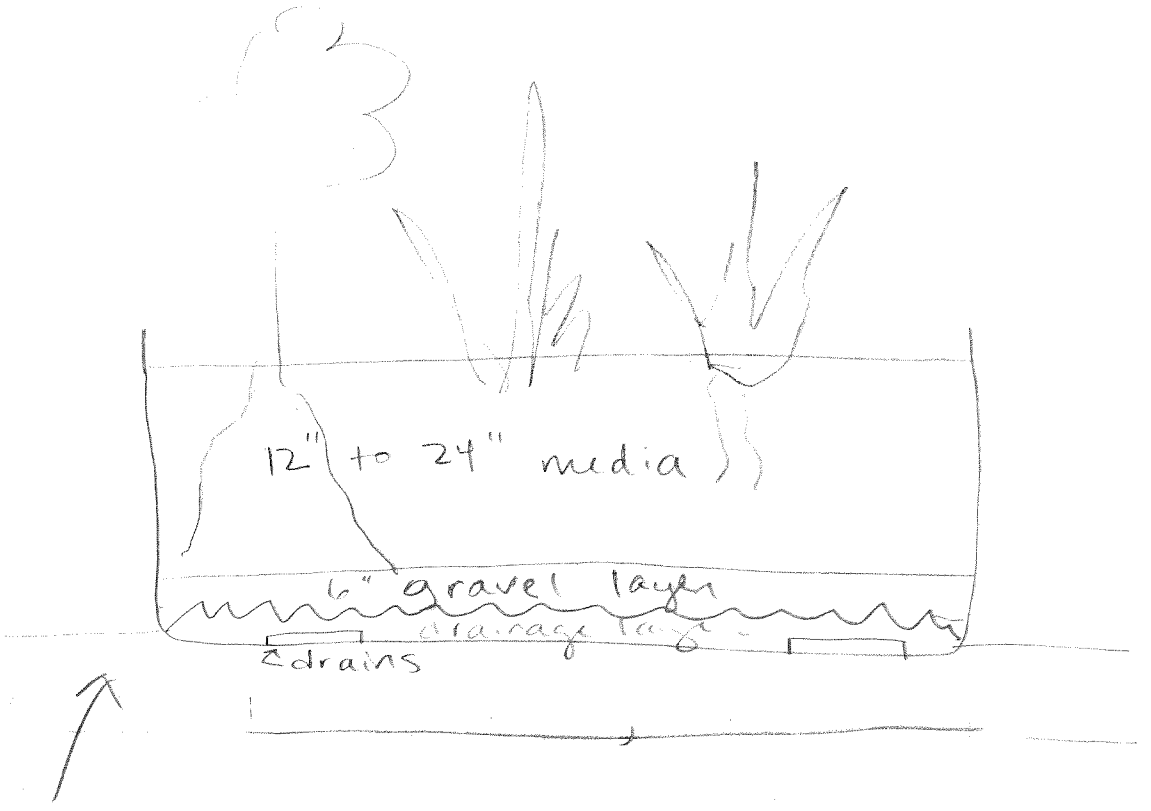
Soils:

Soil auger test holes:	[ ] Yes	[ ] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[ ] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

N/A

Unique Site ID: C15

SKETCH



tie into existing drainage system under tile surface

Unique Site ID: C15

DESIGN OR DELIVERY NOTES

- Since plaza is designed to handle constant foot traffic, it should be adequate to hold intensive GR load. Need to confirm this.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

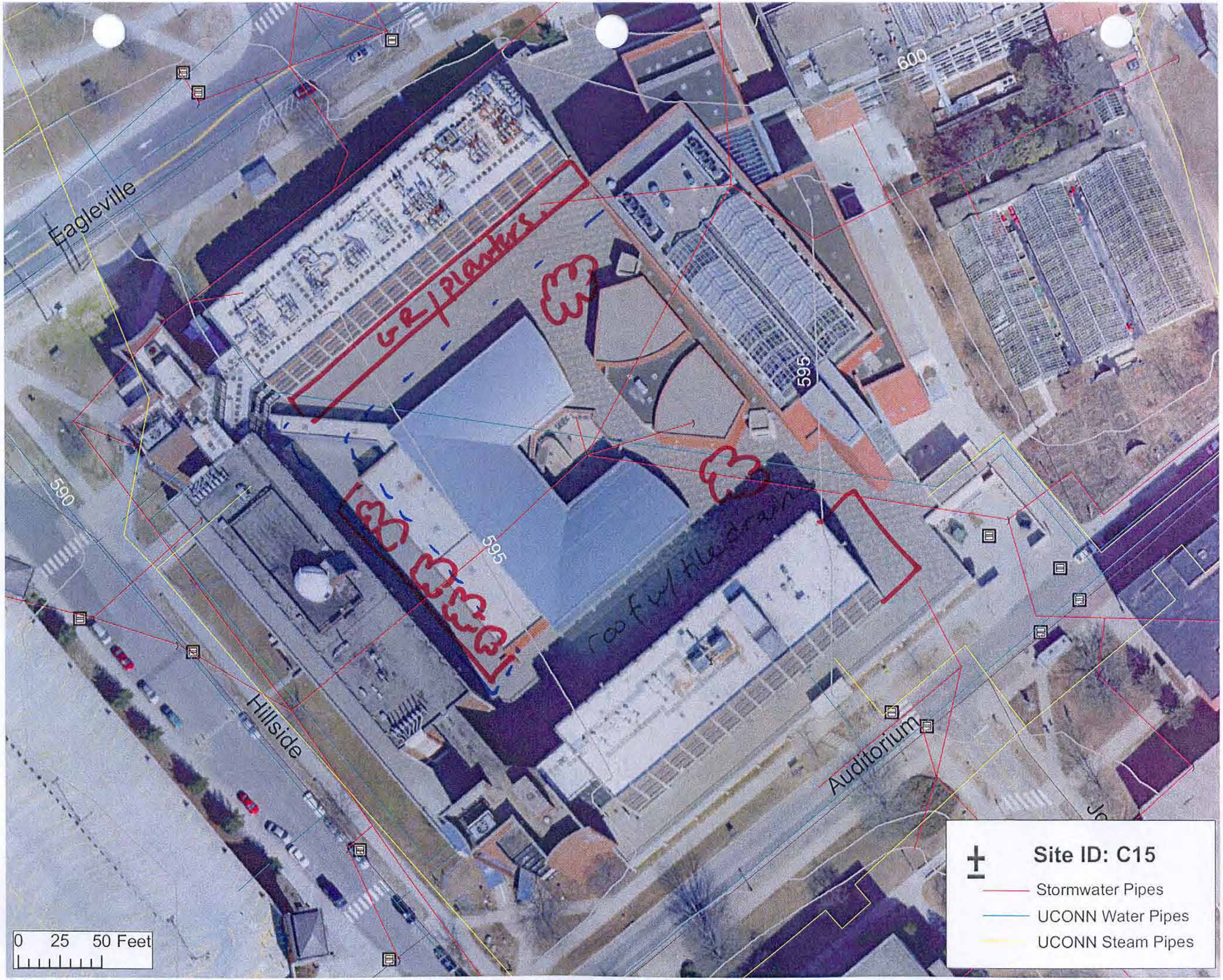
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Green roof study is currently occuring in plaza. Check design plans to confirm existing site drainage configuration.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____



Eagleville
Hillside
Auditorium
590
595
595
600
GR planters
roof w/ tile drain
Site ID: C15
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C16	
DATE: 7/16/09	ASSESSED BY: K MC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Torrey Life Sciences Bldg.
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.319 acre
Imperviousness ≈ 88.7 %
Impervious Area ≈ 12333 sf

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

external downspouts are discharge to compacted, grass area. Runoff flows to low-lying CB in grassed area. Parking lot runoff drains to quad area & CBs.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:

☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

982 cf

Retrofit Volume Computations - Available Storage:

$T_V = WQ_V$

Proposed Treatment Option:

☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- Construct (3) BR areas to treat rooftop & parking lot runoff

Block CB's in parking lot area to direct runoff to BR area.

SITE CONSTRAINTS

Adjacent Land Use:

☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No

If Yes, Describe:

Access:

☒ No Constraints

Constrained due to

☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:

☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

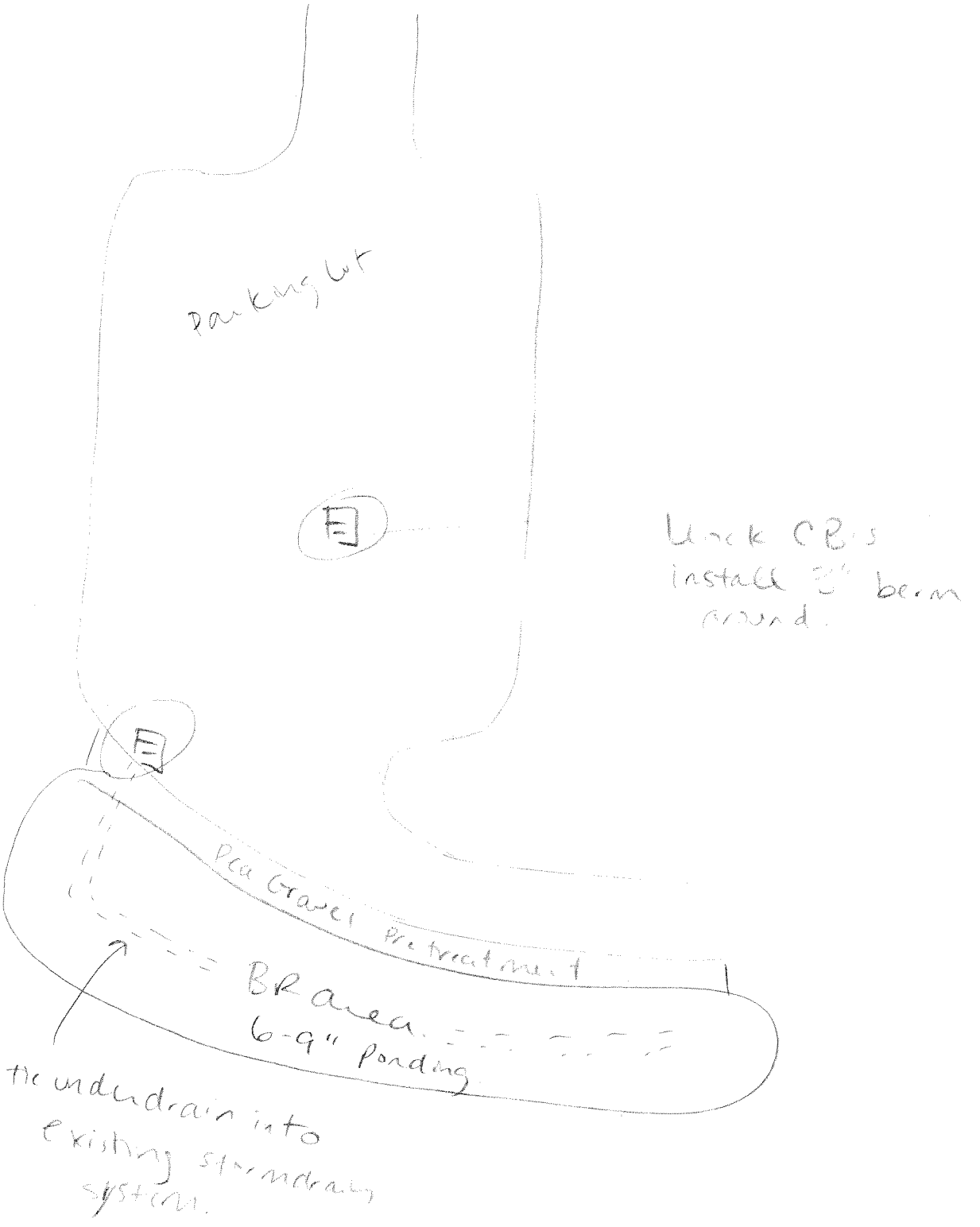
Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (~~clays, fines~~):	☒ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Very Compacted

Unique Site ID: C16

SKETCH



Unique Site ID: C16

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

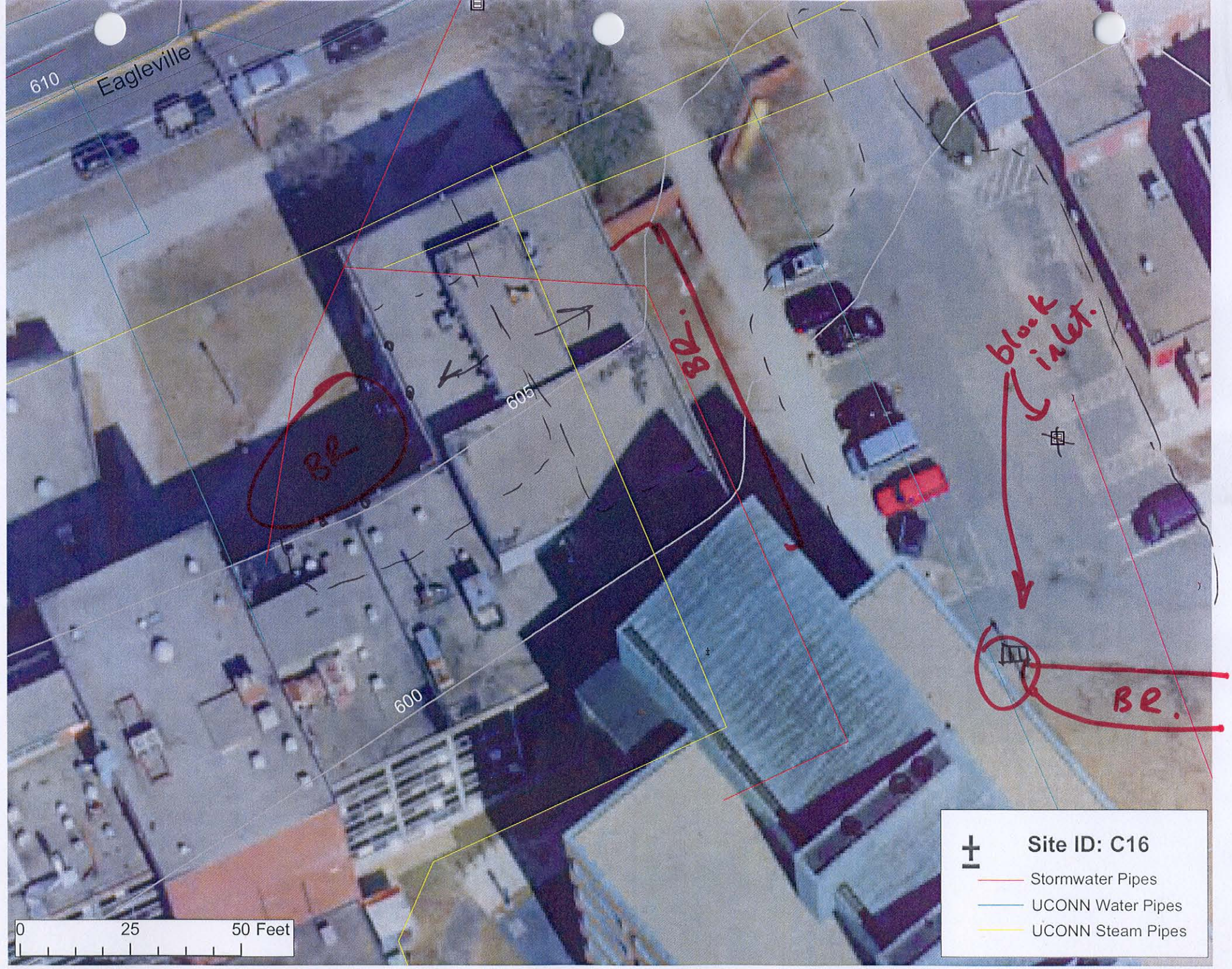
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good education/demo project (involve students in design/build

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C16


610
Eagleville
605
600
BR
BR.
block inlet.
BR.
Site ID: C16
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C17
DATE: 7/16/09	ASSESSED BY: KAC/ACK	CAMERA ID: / PICTURES:
GPS ID:	LMK ID:	LAT: / LONG:

SITE DESCRIPTION

Name: Quad in front of Chemistry & PBB bldg.
Address:

Ownership: ☒ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.55 ac
Imperviousness ≈ 93 %
Impervious Area ≈ 22240 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:
Catchbasins drain runoff directly to piped Eagleville Brook.

Existing Head Available and Points Where Measured:
Stormdrain is 20-22' below grade

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:
WQv = 1767 CF

Retrofit Volume Computations - Available Storage:
TV = 1380 CF

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:
install 2 BR areas in the quad to capture rooftop & patio area runoff. Direct roof downspouts into BR area via pipe & construct forebay area to dissipate energy at inlet.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible		
☐	☐	Sewer	Note these are very deep
☐	☐	Water	
☐	☐	Gas	
☐	☐	Cable	
☐	☐	Electric	
☐	☐	Electric to Streetlights	
☐	☐	Overhead Wires	
☐	☒	Other: stormdrain	

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

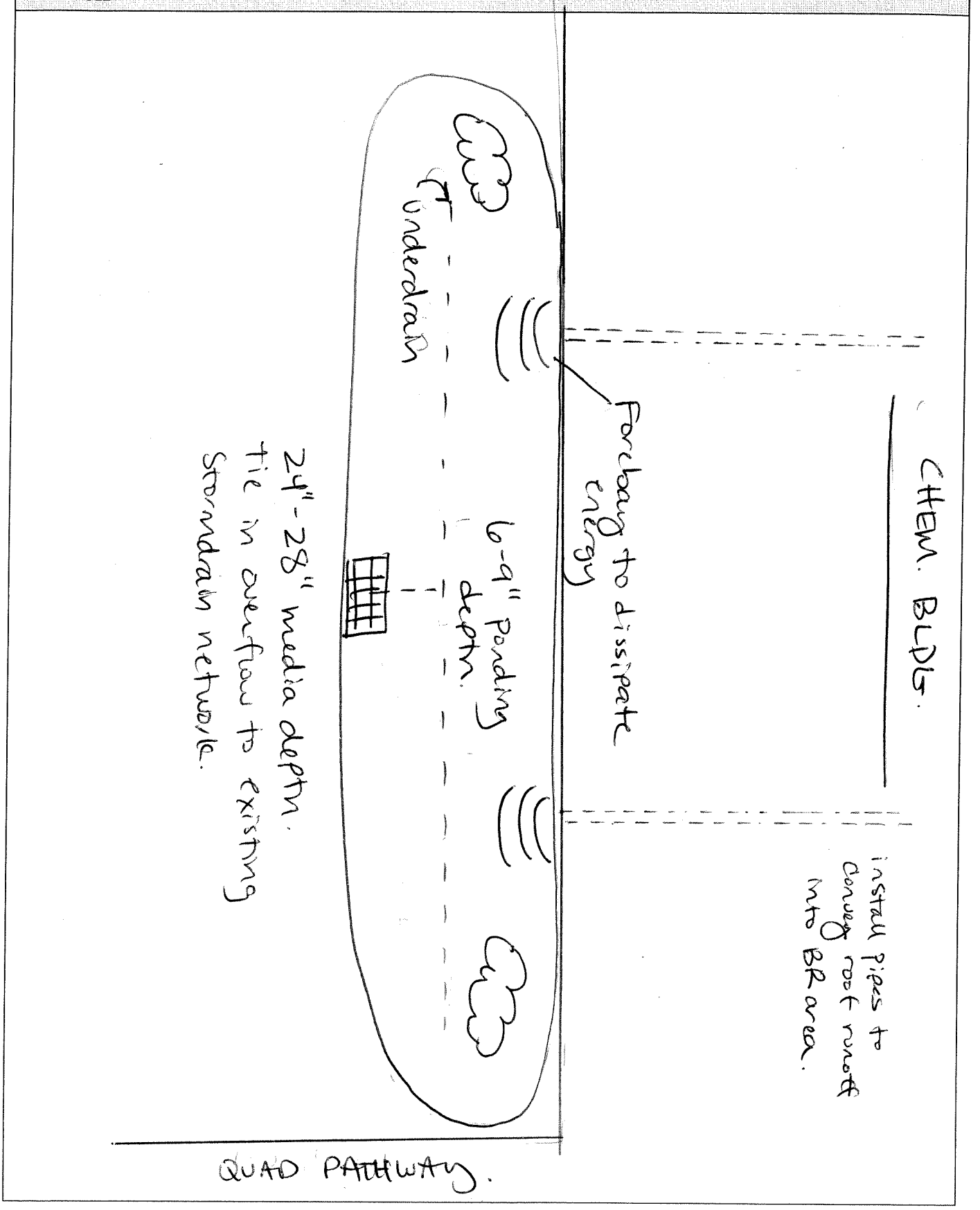
Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Soils are compacted, fill. need to include underdrains in design.

Unique Site ID: C17

SKETCH



Unique Site ID: C17

DESIGN OR DELIVERY NOTES

- Need to avoid utilities. Storm drains are deep under ground surface (20-22')
- need updated stormdrain mapping to design overflow.
- Soils are Compacted / fill. Need to include underdrains in design.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other: _____

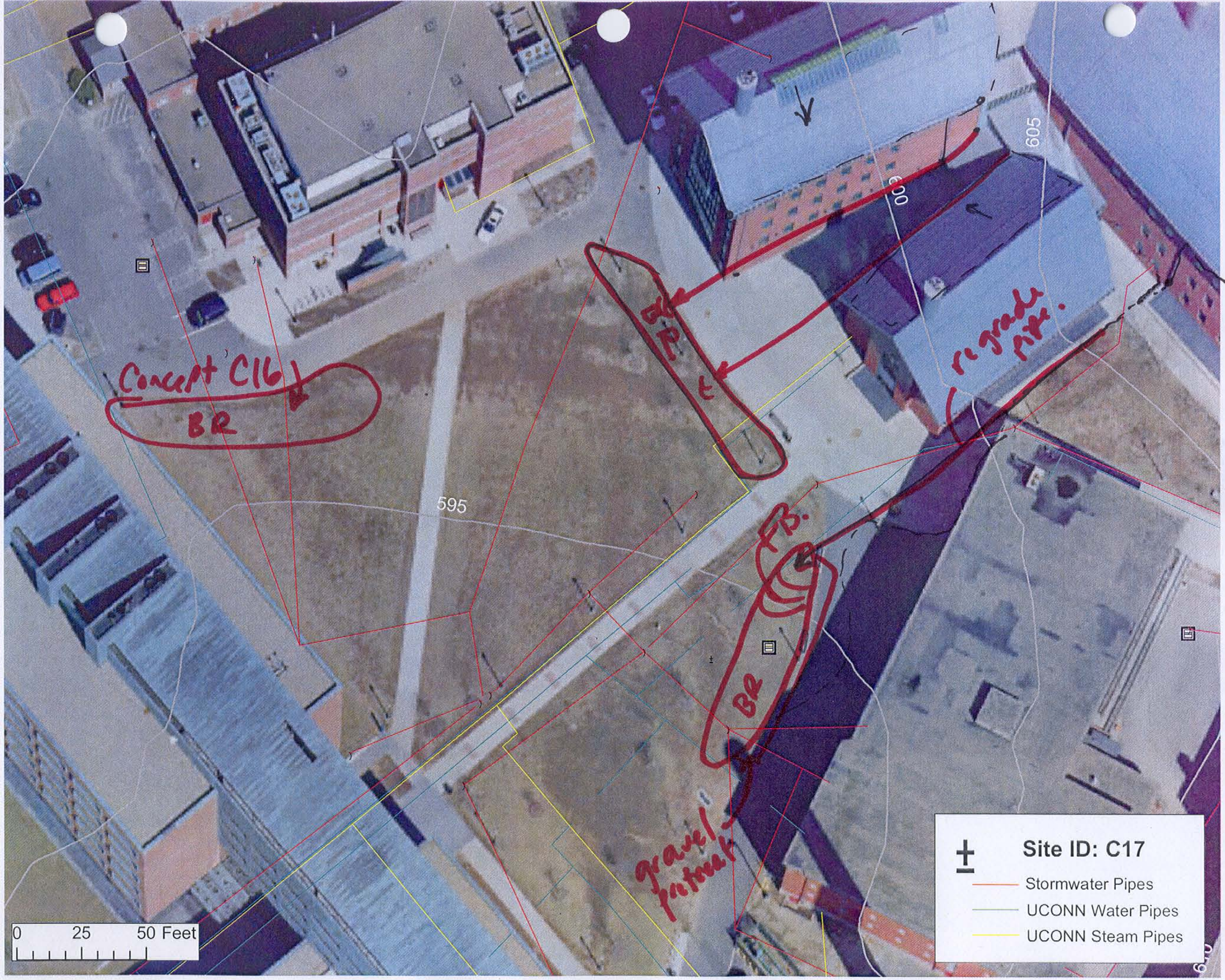
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good demoproject. Involve students in design / Construct.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S): _____

Unique Site ID: C17



Site ID: C17
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet
605
600
595
Concept C16
BR
regrade pipe.
BR
gravel pretreat

WATERSHED: Eaglewille	SUBWATERSHED:	UNIQUE SITE ID: C18
DATE: 7/16/09	ASSESSED BY: KA/LA/DB	CAMERA ID:
GPS ID:	LMK ID:	LAT:
PICTURES:		LONG:

SITE DESCRIPTION

Name: Eaglewille Rd.
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☒ DOT? ☒ Other: UConn?

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☒ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 54319 SF
Imperviousness ≈ 100 %
Impervious Area ≈ 54319 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional?
- ☐ Industrial
- ☒ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

*runoff from crowned roadway drains to CBs along street.

*dangerous traffic situation w/ pedestrians & traffic *

Existing Head Available and Points Where Measured:

Unique Site ID: C18

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [ ] Recharge
- [ ] Channel Protection
- [ ] Flood Control
- [x] Demonstration / Education
- [ ] Repair
- [x] Other: IC removal, traffic calming

Retrofit Volume Computations - Target Storage:

WQv = 4300 CF

Retrofit Volume Computations - Available Storage:

Tv = 3450 CF

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Wet Pond
- [ ] Created Wetland
- [ ] Bioretention
- [ ] Filtering Practice
- [ ] Infiltration
- [ ] Swale
- [x] Other: streetscape bioretention

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- Remove IC + install traffic calming bump-out bioretention areas along the road, particularly at pedestrian crossings.

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [x] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:_____

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [x] No

If Yes, Describe:

Access:
- [ ] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [x] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:_____

Conflicts with Existing Utilities:
- [ ] None
- [ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[x]	Electric
[ ]	[x]	Electric to Streetlights
[ ]	[x]	Overhead Wires
[ ]	[ ]	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[ ] Not Probable
Impacts to Wetlands	[ ] Probable	[ ] Not Probable
Impacts to a Stream	[ ] Probable	[ ] Not Probable
Floodplain Fill	[ ] Probable	[ ] Not Probable
Impacts to Forests	[ ] Probable	[ ] Not Probable
Impacts to Specimen Trees	[ ] Probable	[ ] Not Probable

How many?_____

Approx. DBH_____

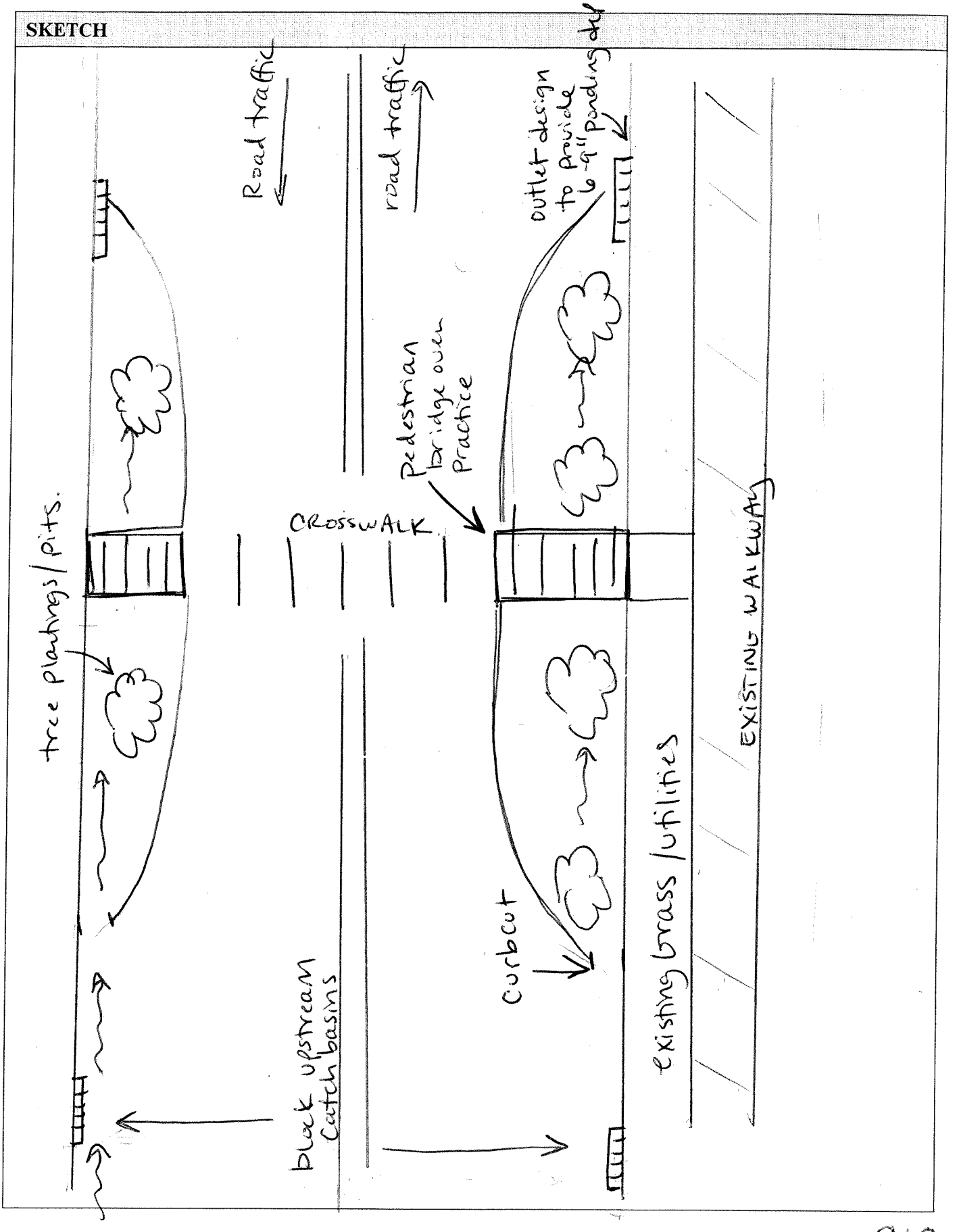
Other factors:_____

Soils:

Soil auger test holes:	[ ] Yes	[x] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[ ] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

Unique Site ID: C18

SKETCH



Unique Site ID: C18

DESIGN OR DELIVERY NOTES

- designs also serve as traffic calming devices. (dual purpose)
- High priority - partner w/ university efforts to calm traffic along road. Also partner w/ landscaping efforts.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- [x] Confirm property ownership
- [ ] Confirm drainage area
- [ ] Confirm drainage area impervious cover
- [ ] Confirm volume computations
- [ ] Complete concept sketch
- [ ] Obtain existing stormwater practice as-builts
- [ ] Obtain site as-builts
- [ ] Obtain detailed topography
- [x] Obtain utility mapping
- [ ] Confirm storm drain invert elevations
- [ ] Confirm soil types
- [ ] Other: _____

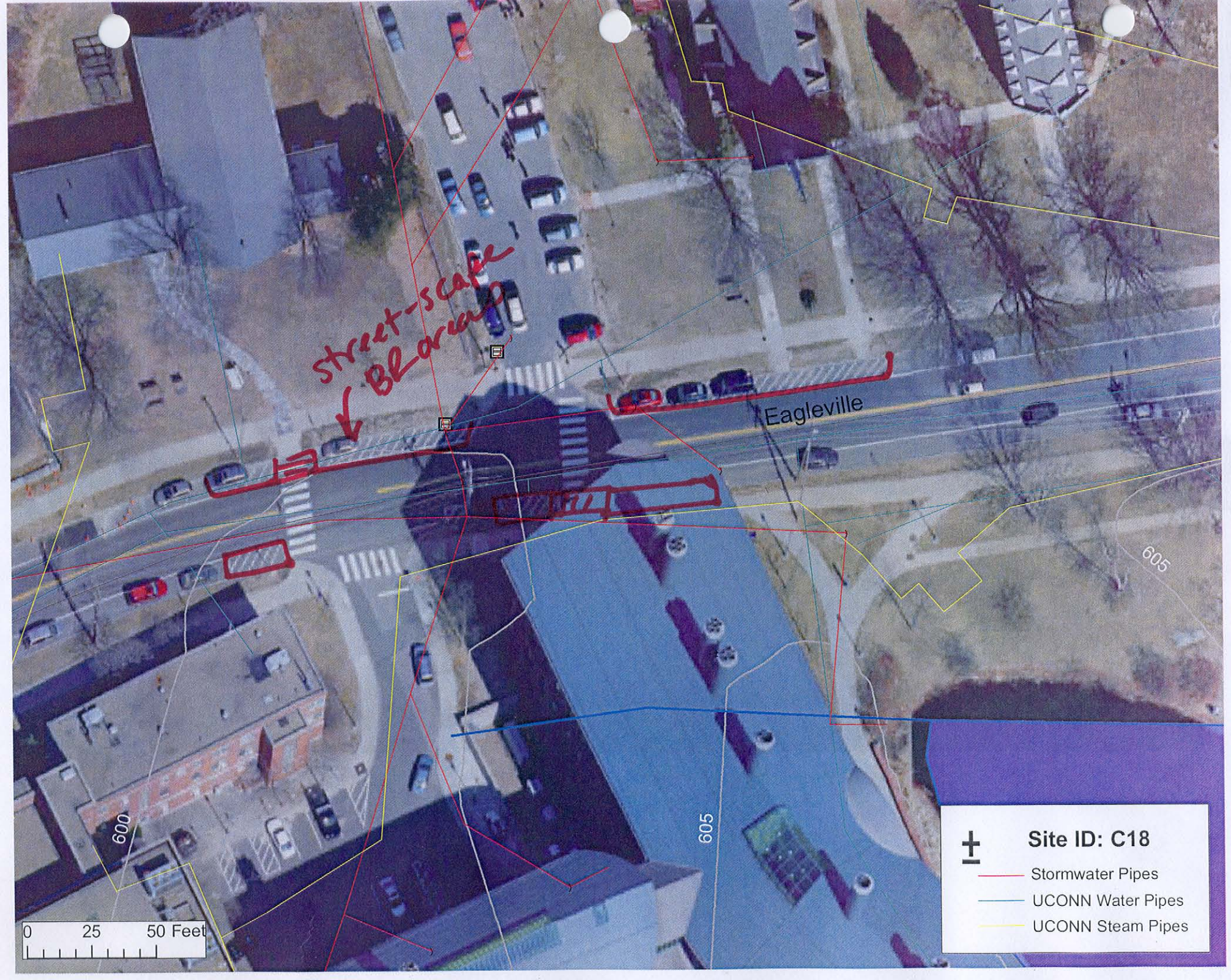
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good education/demo project. Involve students in design/build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	[x] YES	[ ] NO	[ ] MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	[ ] YES	[ ] NO	[x] MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	[ ] YES	[x] NO	[ ] MAYBE

IF YES, TYPE(S): _____

Unique Site ID: C18


Street-scape
Eagleville
605
600
605
0 25 50 Feet
Site ID: C18
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: C19	
DATE: 7/20/2009	ASSESSED BY: K, KC, DD	CAMERA ID: Olympus	PICTURES: 140-149 (some unusable pics)
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Student Health Services
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☑ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈
Imperviousness ≈ 100 %
Impervious Area ≈

Notes:

a	b	c
0.036	0.193	0.085 acres
100	100	100%
1574 SF	8387 SF	3718 SF

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

- lot drains to storm drain

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- excess impervious from lot + sidewalk

Existing Head Available and Points Where Measured:

Unique Site ID: C19

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: human health / tranquility (Runoff Reduction)

Retrofit Volume Computations - Target Storage:

a	b	c
125	664	294 cf

Retrofit Volume Computations - Available Storage:

Tv = WQv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: PP / GR / IC removal

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

A remove excess IC in front (at hillslope)
B PP in front + ½ of back lot
C install GR on bldg for rest + recuperation of patients (plant O, benches)

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

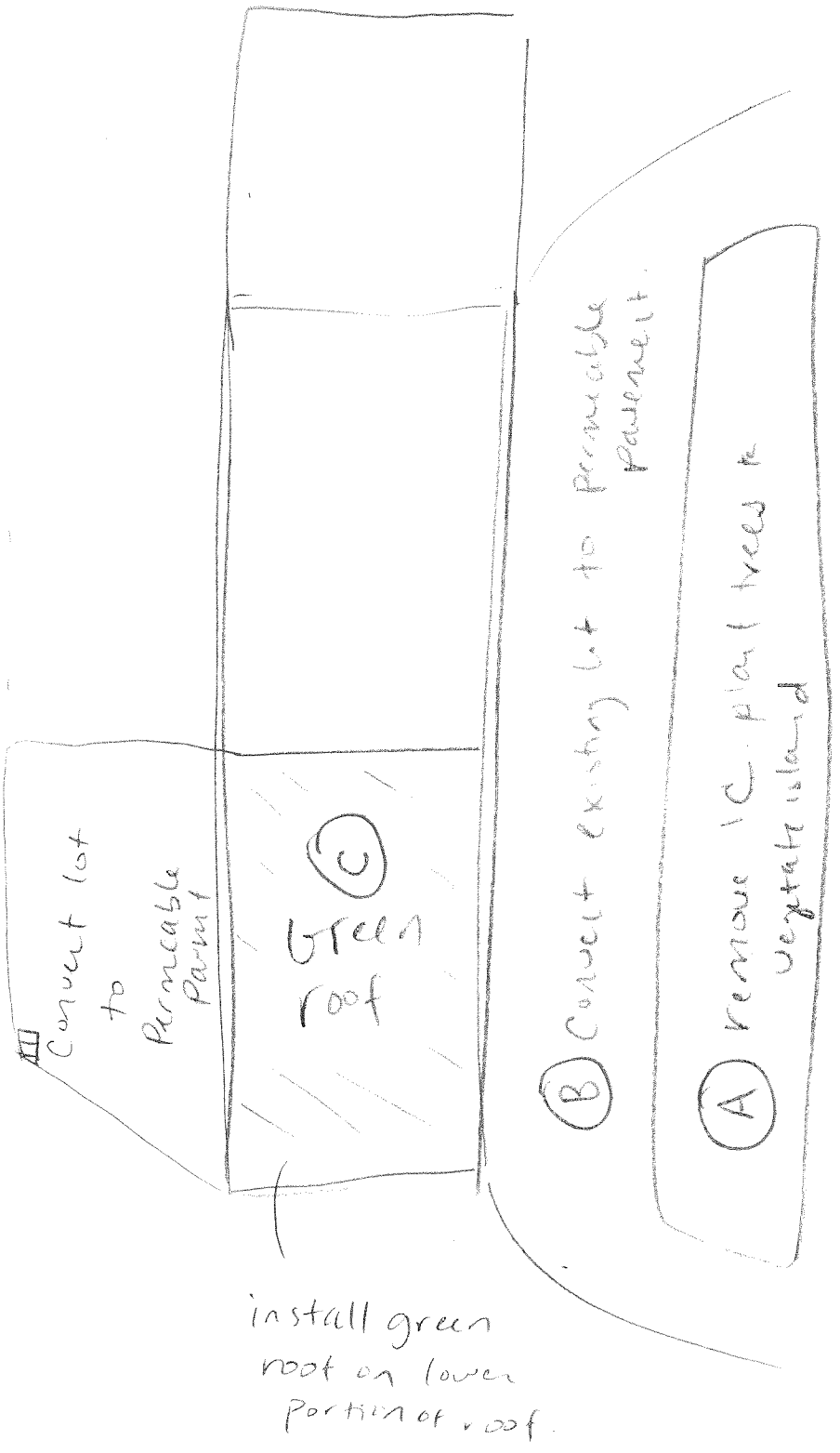
Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

(likely Compacted)

Unique Site ID:_____

SKETCH



Unique Site ID: C19

DESIGN OR DELIVERY NOTES

— Proposed green roof can be viewed from higher office windows. Nice aesthetic qualities

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

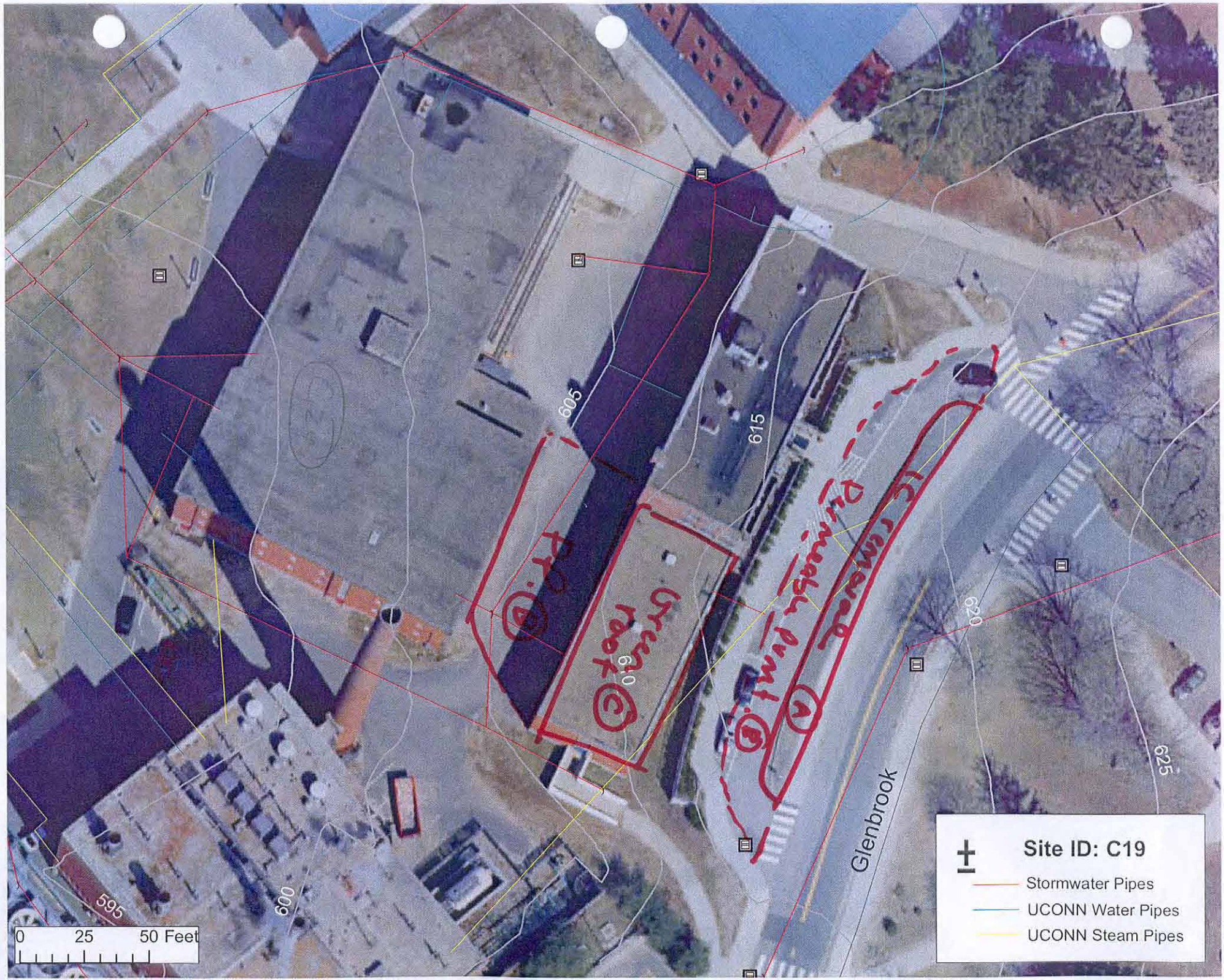
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


Site ID: C19
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet
595
600
605
610
615
620
625
Glenbrook

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C2	
DATE: 7/15/09	ASSESSED BY: KAC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Parking area in front of student union
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown ☒ Other: UConn
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☒ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.107
Imperviousness ≈ 99.5 %
Impervious Area ≈ 4618

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Street runoff drains to stormdrain system

Existing Head Available and Points Where Measured:

N/A

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

366cf

Retrofit Volume Computations - Available Storage:

WQv = Tv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Permeable Pvmt.

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- Convert parking area 1 to pervious concrete infront of Student Union.

Underdrain should be utilized in design

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☒	Water – AVOID
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Approval to be under sidewalk

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

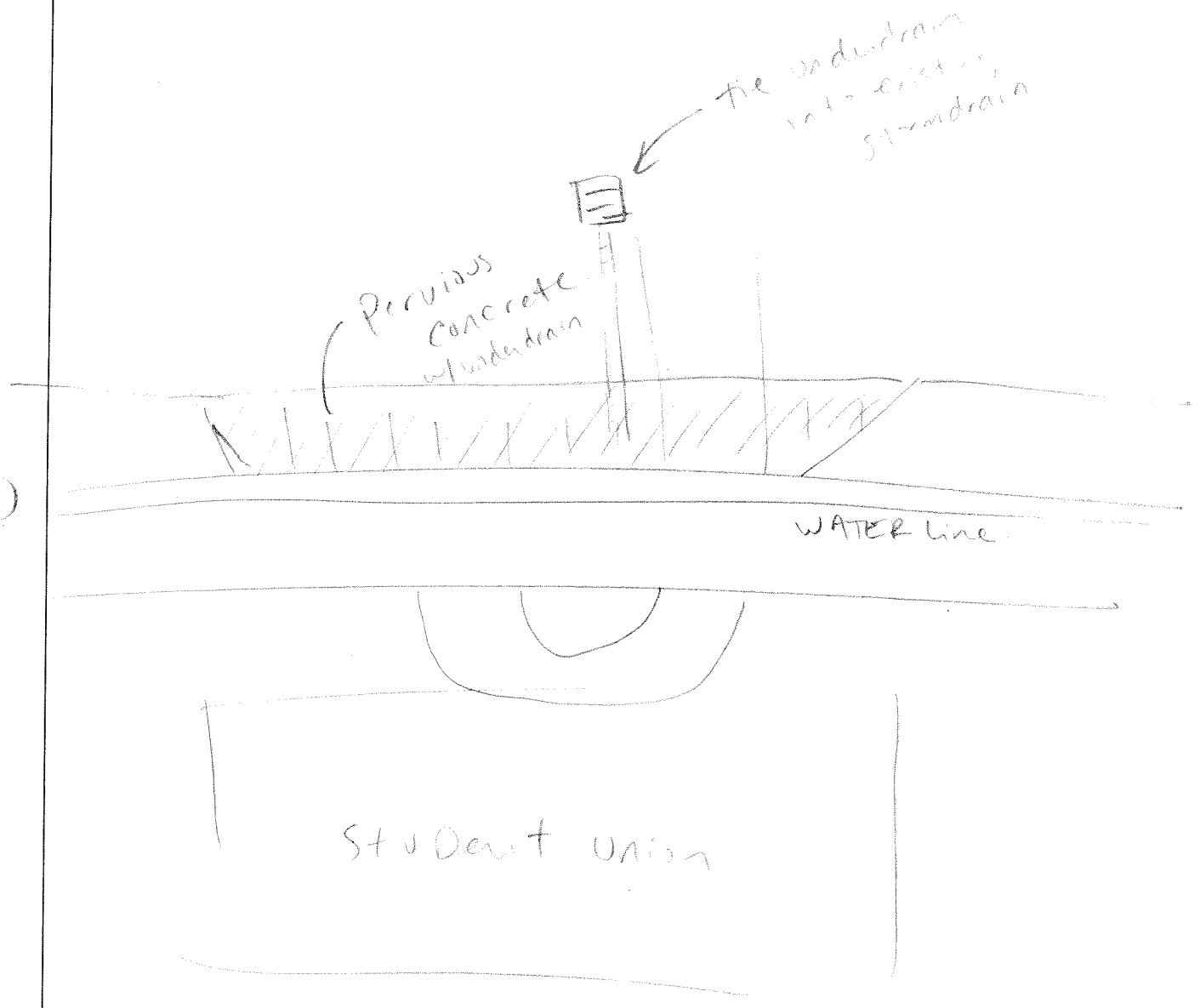
Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☒ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

include underdrain in design

Unique Site ID: C2

SKETCH



Unique Site ID: C2

DESIGN OR DELIVERY NOTES

- Construct in conjunction w/ pervious concrete lot to be built across the street.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Check underlying soils. Will likely need underdrain in design

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C2


625
Student Union Bldg
630
Permeable Pavement
Hillside
0
25
50 Feet
Site ID: C2
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: C20	
DATE: 7/16/2009	ASSESSED BY: KLL DD	CAMERA ID: Olympus Stylus	PICTURES: 134-135
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: School of Nursing
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.115 acre
Imperviousness ≈ 99 %
Impervious Area ≈ 4982 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

External downspouts are directly connected to stormdrain system

Bldg drains to Swan Lake, parking lot to Eagleville?

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

395 cf

Retrofit Volume Computations - Available Storage:

TV = WQV

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- disconnect downspouts & convey roof runoff to BR area
- 1 BR with underdrain for small urban lot

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☒ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

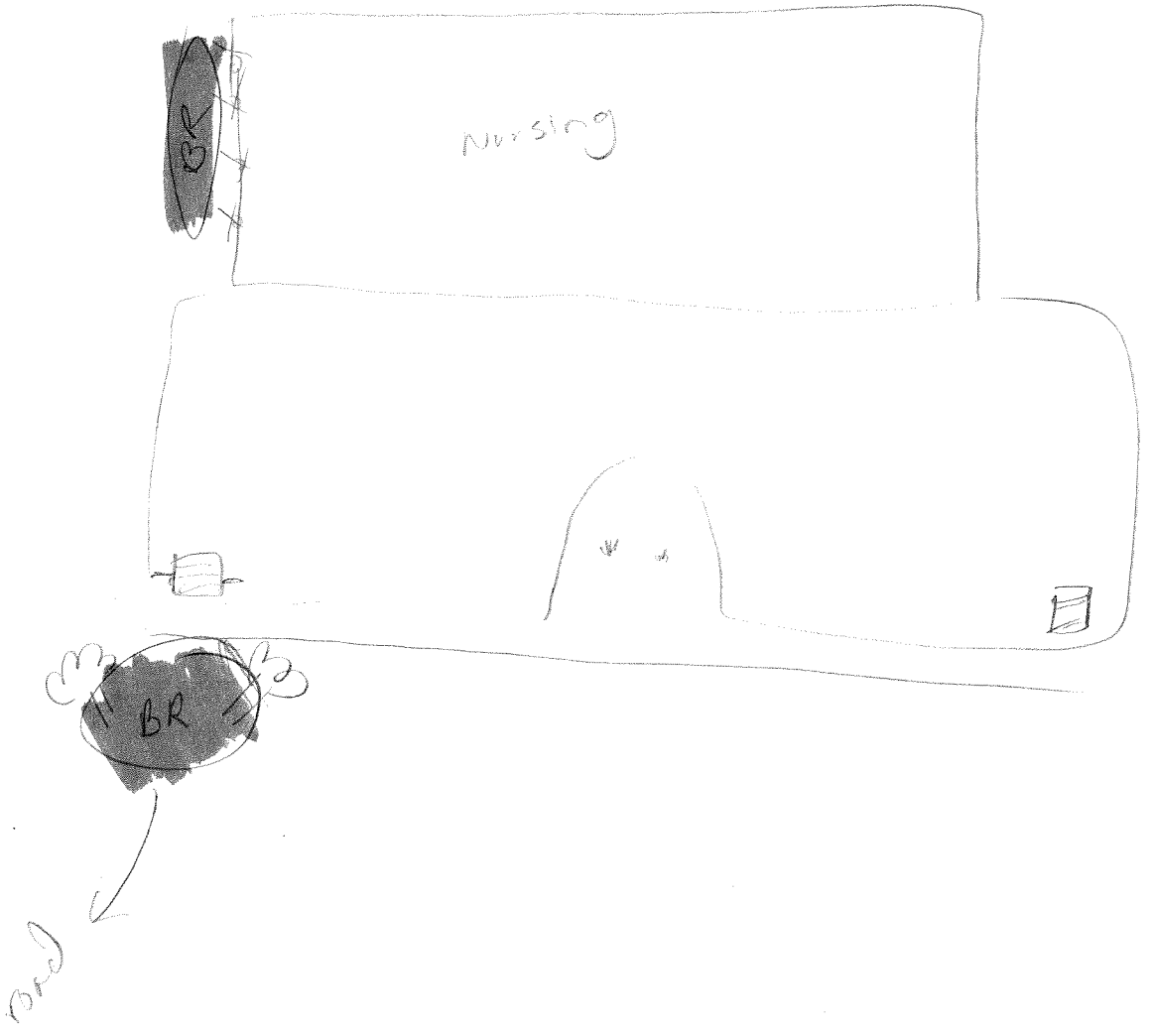
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID: C20

SKETCH



Unique Site ID: C20

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good education / demo project. Involve students in design.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____

Site ID: C20
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
Nursing school. Drains to Swan Lake.
630
625
620
615
Glenbrook
BR
block inlet
grass swale
BR
0
25
50 Feet

WATERSHED: Eagleville Brook	SUBWATERSHED:	UNIQUE SITE ID: C21	
DATE: 7/20/2009	ASSESSED BY: A.K., DO	CAMERA ID: Olympus Stylus	PICTURES: 134-139
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Wood Hall

Address:

Ownership: ☐ Public ☐ Private ☐ Unknown

If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UCONN

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.171 acres
Imperviousness ≈ 100 %
Impervious Area ≈ 7438 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible

If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

- turf area w/ some pedestrian use; some shade; mild slope

external down spouts directly connected to storm drain system

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

589 cf

Retrofit Volume Computations - Available Storage:

$T_V = WQ_V$

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- potential to disconnect entire building w/ BR

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:_____

SKETCH

Unique Site ID: C21

DESIGN OR DELIVERY NOTES

good student involvement project

- Alternative option: restore pervious turf area below downspout & do simple downspout disconnect. must ensure restored permeability of turf area.

- Possible to disconnect entire bldg.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good education/demo. Involve students in design/build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C21


Glenbrook
615
620
625
630
BR
BR
BR
BR
Avoid existing
Swath line
Site ID: C21
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C22
DATE: 7/16/09	ASSESSED BY: KAC/ACK	CAMERA ID: / PICTURES:
GPS ID:	LMK ID:	LAT: / LONG:

SITE DESCRIPTION

Name: Pharmacy / Biology Bldg (PBB)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.3600 acre
Imperviousness ≈ 100 %
Impervious Area ≈ 15701 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Internal roof drains connect directly to Stormdrain System

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Run-off Reduction

Retrofit Volume Computations - Target Storage:

1243 cf

Retrofit Volume Computations - Available Storage:

TV = WQV

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: Green Roof

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- install GRs on low roof area
- extensive

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

N/A

Unique Site ID: 522

SKETCH

- See aerial.

DESIGN OR DELIVERY NOTES

GRadds
+ nice aesthetic quality for adjacent taller bldg addition.

- need to confirm structural capacity of rooftop

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

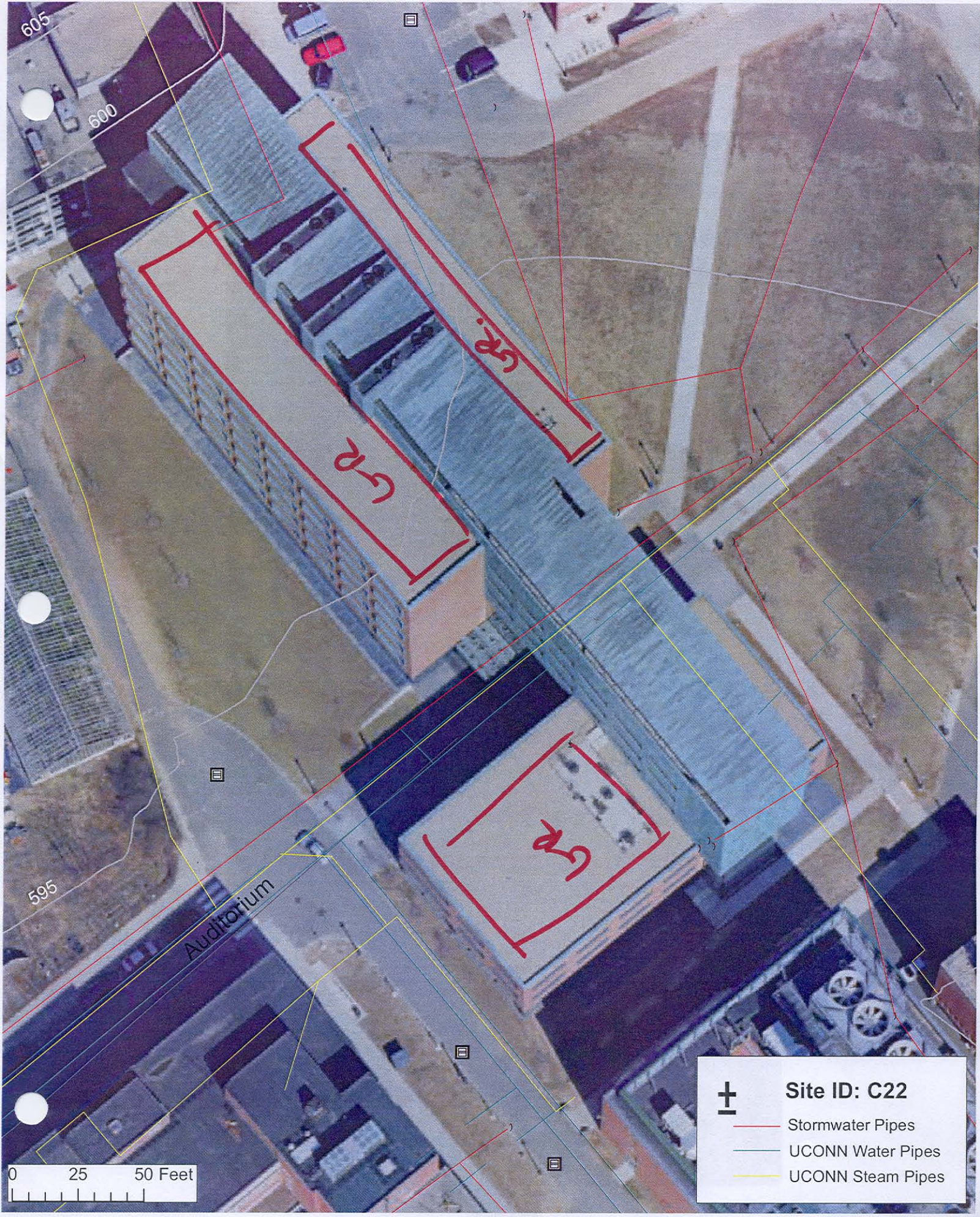
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID:_____


605
600
595
Auditorium
0
25
50 Feet
Site ID: C22
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C23	
DATE: 7/15/09	ASSESSED BY: EAC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Quad adjacent to ITE Bldg.
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn.

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other: _____
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ N/A
Imperviousness ≈ 0 %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Turf Area is highly compacted Runoff drains to yard inlet No landscaping in area - only turf.

Existing Head Available and Points Where Measured:

Unique Site ID: C23

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☒ Other: Run-off Reduction

Retrofit Volume Computations - Target Storage:

?

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

- tree plantings
- pervious area restoration

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

* Compacted

SKETCH

- see aerial

Unique Site ID: C23

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: 123


630
635
Tree plantings
Tree plantings
Pervious Area Restoration.
0
25
50 Feet
Site ID: C23
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Gaglville	SUBWATERSHED:	UNIQUE SITE ID: C24	
DATE: 7/16	ASSESSED BY: KACKAL	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Old Central Warehouse (OCW)
Address:

Ownership: ☒ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.266 acre
Imperviousness ≈ 97 %
Impervious Area ≈ 11,197 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Runoff Drains to CB in parking lot

Existing Head Available and Points Where Measured:

Unique Site ID: C24

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

888 cf

Retrofit Volume Computations - Available Storage:

Tv = 230 cf.

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Construct BR to capture runoff. Block CB in parking lot

- Alt design - replace parking lot asphalt w/ permeable pavement

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☒ Slope ☒ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID: C24

SKETCH

See aerial.

Unique Site ID: 024

Design or Delivery Notes

- BR area is likely undersized (space constrained) for project DA
- low priority
- Several site constraints – utilities, slope, space
- Alt design is permeable pavement on lot.

Follow-up Needed to Complete Field Concept

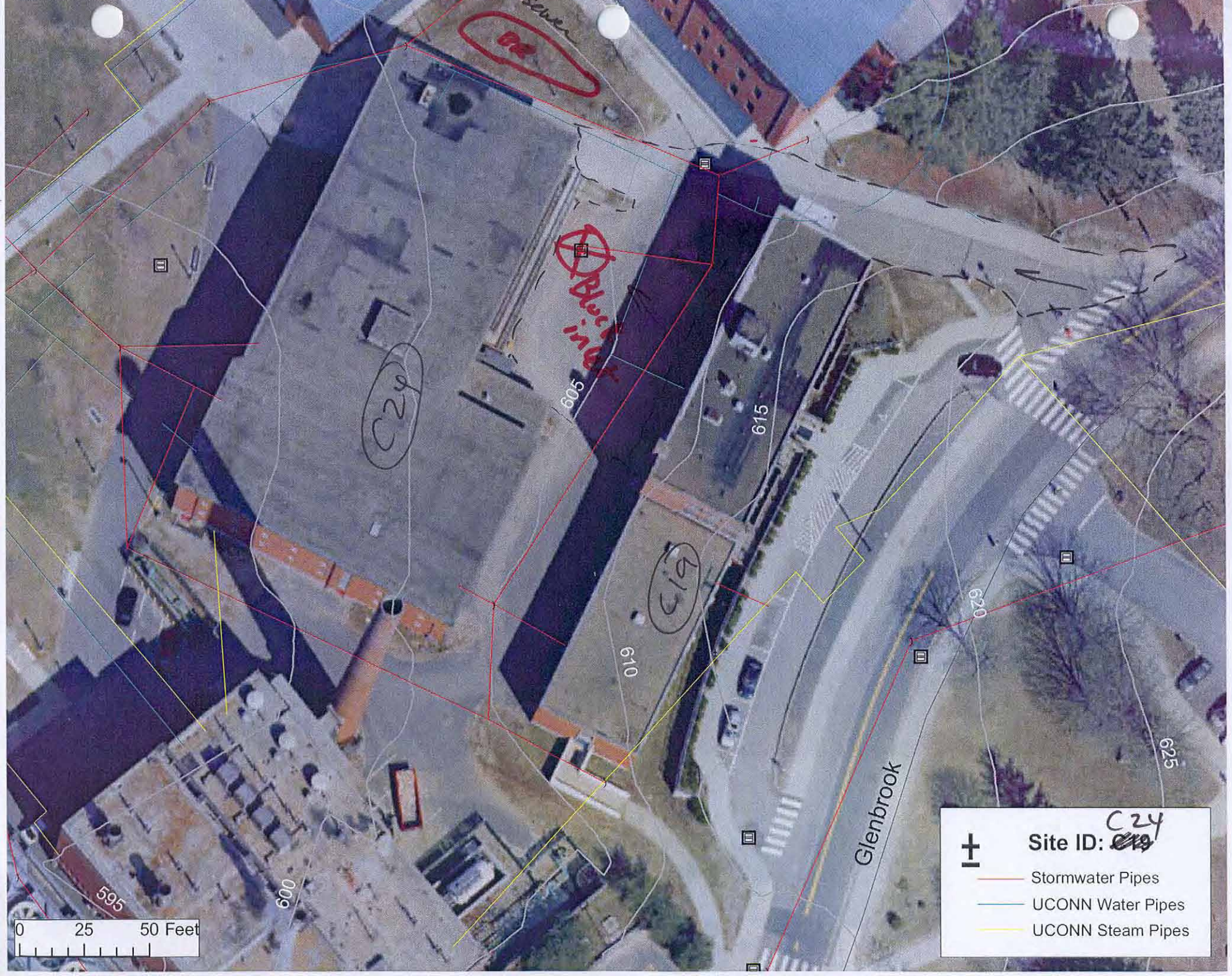
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☒ Obtain detailed topography
- ☒ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other: _____

Initial Feasibility and Construction Considerations

Site Candidate for Further Investigation:	☐ Yes	☐ No	☐ Maybe
Is Site Candidate for Early Action Project(s):	☐ Yes	☐ No	☐ Maybe
If no, site candidate for other Restoration Project(s):	☐ Yes	☐ No	☐ Maybe

If yes, type(s): _____

Unique Site ID: C24


C24
C19
605
610
615
620
625
595
600
Glenbrook
0 25 50 Feet
Site ID: C24
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C3	
DATE: 7/15/09	ASSESSED BY: KAC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: University Library - (Entrance Way)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.031 acre
Imperviousness ≈ 99 %
Impervious Area ≈ 1342 sq ft

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Internal roof drains from Library Entrance enter CB # flow to roadway storm system.

Existing Head Available and Points Where Measured:

Need measurement!

Unique Site ID: C3

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☑ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

WQv = 106 cf

Retrofit Volume Computations - Available Storage:

Tv = 77 cf

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Daylight roof drains + create BR area.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☒ Space ?
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?
Approx. DBH

Other factors:

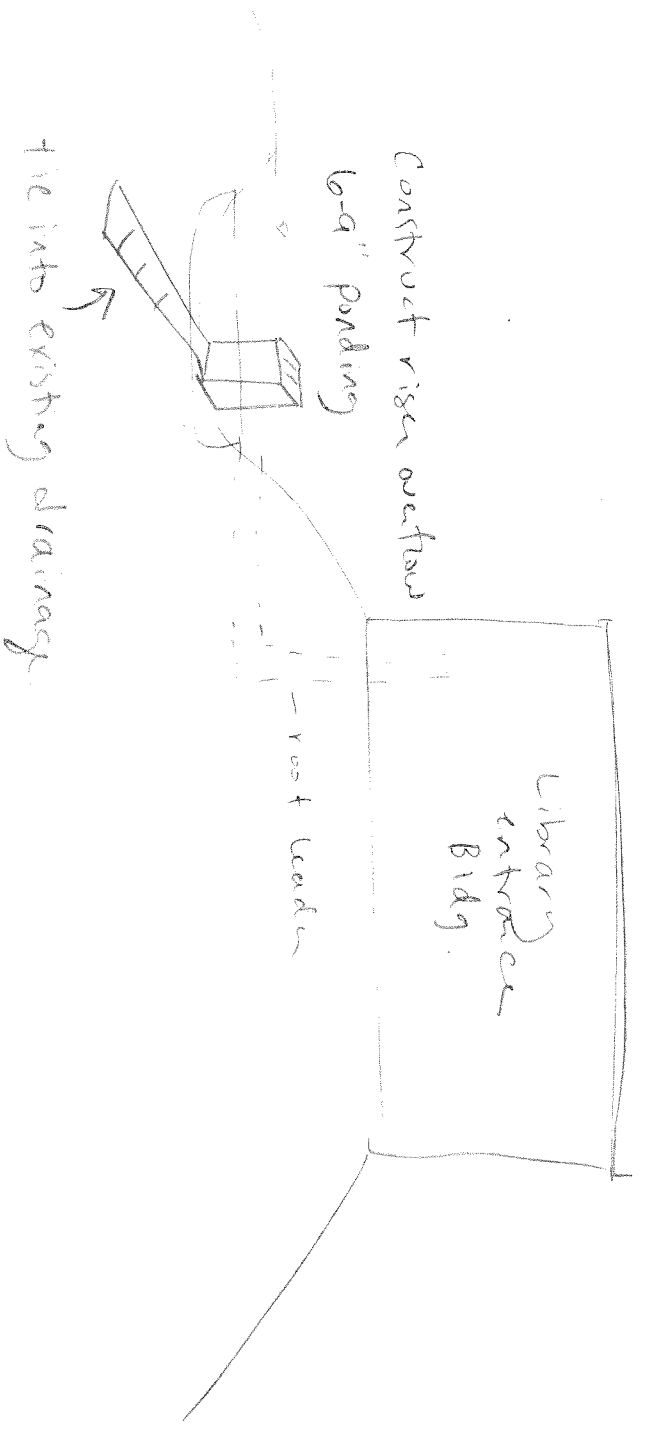
Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Compacted?

Unique Site ID: C3

SKETCH



Unique Site ID: C3.

DESIGN OR DELIVERY NOTES

- need to confirm DA & avail space

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- [ ] Confirm property ownership
- [x] Confirm drainage area – check bldg drainage
- [ ] Confirm drainage area impervious cover
- [x] Confirm volume computations
- [ ] Complete concept sketch
- [ ] Obtain existing stormwater practice as-builts
- [ ] Obtain site as-builts
- [ ] Obtain detailed topography
- [ ] Obtain utility mapping
- [x] Confirm storm drain invert elevations
- [ ] Confirm soil types
- [ ] Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Check space availability
- Could be good student demo project. Students can be involved in design/build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	[x] YES	[ ] NO	[ ] MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	[ ] YES	[x] NO	[ ] MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	[ ] YES	[x] NO	[ ] MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C3.


Fairfield
625
B2
Area
Site ID: C3
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: C4	
DATE: 07/1/2009	ASSESSED BY: ACK/KAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: School of Education (CUE)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: institution

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☒ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ F 0.020 ac
Imperviousness ≈ % 100%
Impervious Area ≈

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

Notes:	A	B	C	D	E
DA =	0.57ac	0.58	0.111	0.39	0.467
IC =	100%	100	0	100	72

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Roof leaders are directly connected to stormdrain
Adjacent green space is highly compacted. Lots of localized soil erosion.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [x] Demonstration / Education
- [ ] Recharge
- [ ] Repair
- [ ] Channel Protection
- [ ] Other:
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

See spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet.

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Wet Pond
- [ ] Created Wetland
- [x] Bioretention, planters
- [ ] Filtering Practice
- [ ] Infiltration
- [ ] Swale
- [x] Other: Cistern, vegetation

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(A) Direct front Leaders into Stormwater planters

(B) 2 downspouts at bldg. front directed to cistern. Use water to irrigate plants + landscaping

(C) Plant trees / landscaping opportunities

(D) Divert 2 side downspouts to Bioretention area in quad.

(E) Construct a large linear Bioretention area along walkway. Divert walkway + terrace runoff into area.

(F) Small bioretention in rear of bldg to capture roof runoff

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [x] Yes [ ] No

If Yes, Describe:

(E) new bldg Construction planned.

Access:
- [x] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [ ] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:

Conflicts with Existing Utilities:
- [ ] None
- [ ] Unknown

Yes	Possible	
[ ]	[x]	Sewer
[ ]	[x]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[x]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[x]	Other: stormdrain

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[ ] Probable	[x] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[ ] Probable	[x] Not Probable
Impacts to Specimen Trees	[ ] Probable	[x] Not Probable

How many?

Approx. DBH

Other factors:

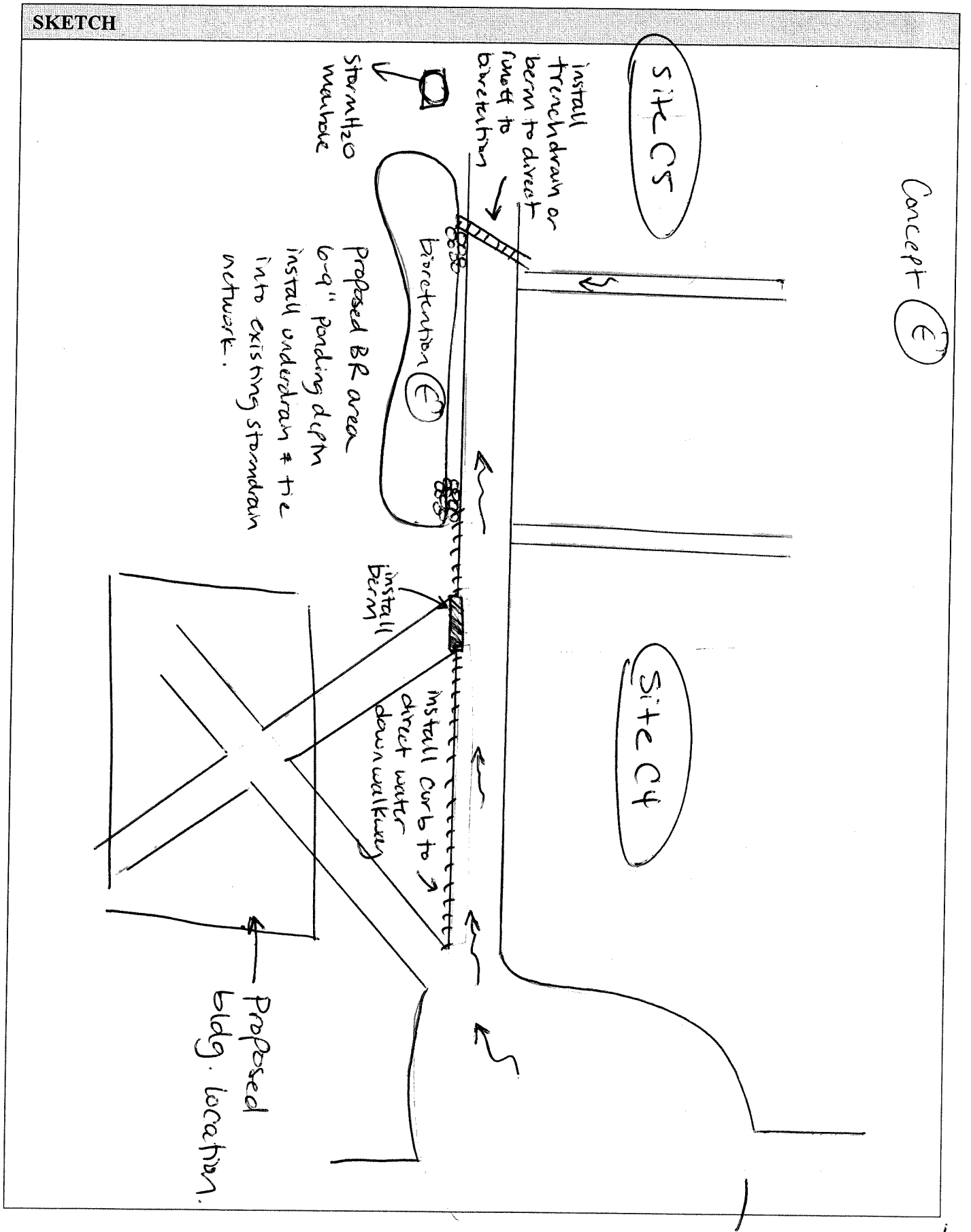
Soils:

Soil auger test holes:	[ ] Yes	[ ] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[ ] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

Compacted use underdrains.

Unique Site ID: C4

SKETCH



Unique Site ID: C4/C5

DESIGN OR DELIVERY NOTES

- use water from cistern to irrigate landscaping.
- Several opportunities at this site to disconnect IC.
- many projects at sites C4 + C5 can be designed similarly.
- New bldg is being ~~constructed~~ planned for adjacent site. This may influence/affect project (E)
- Soils are compacted. Need to include underdrains in bioretention designs.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

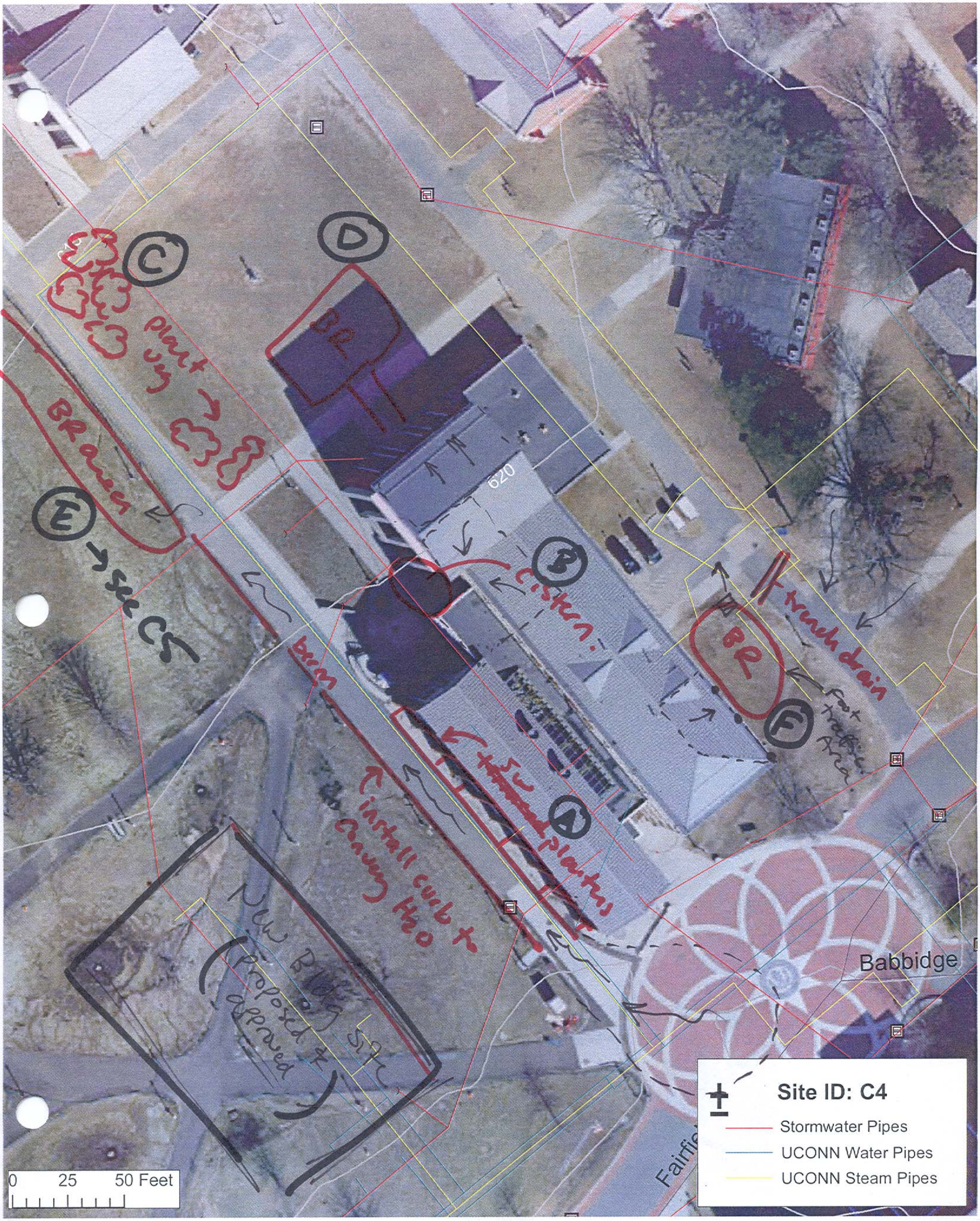
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Projects (B) + (D) are good for student education / demo. Students can be involved in design / build.
- Timing of project (E) should be after construction of new bldg in quad area.
- Can package construction for sites C4 + C5 due to design similarities.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C4 / C5



Site ID: C4
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
Babbidge
620
0 25 50 Feet
Fairfiel
A
B
C
D
E
F
BR
BR
plant
cistern.
trench drain
berm
install curb to convey H2O
planters
E → see C5
New Bldg site
(proposed + approved)

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: C5	
DATE: 7/15/09	ASSESSED BY: ACK/KAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Charles B. Gentry Bldg. (GENT).
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown ☒ Other: institution.
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☒ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes: A

DA =	0.960	0.061	0.087	0.034
IC =	100	100	0	100.

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Roof leaders directly connected to stormdrain.
Adjacent green space is highly compacted.
Lots of localized soil erosion.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

See spreadsheet

Retrofit Volume Computations - Available Storage:

See spreadsheet.

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention, planters
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: cistern, plantings.

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

(A) Direct front roof leaders into stormwater planters
(B) Direct 2 downspouts at bldg front into cistern. Use water to irrigate landscaping.
(C) Plant trees / landscaping opportunities
(D) Divert 2 side downspouts into bioretention area in quad.
(E) Bioretention. See C4 (E) Concept.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☒ Yes ☐ No
If Yes, Describe:
(E) new bldg. Construction planned

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☐	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☒	Electric
☐	☐	Electric to Streetlights
☐	☐	Overhead Wires
☐	☒	Other: Stormdrain.

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

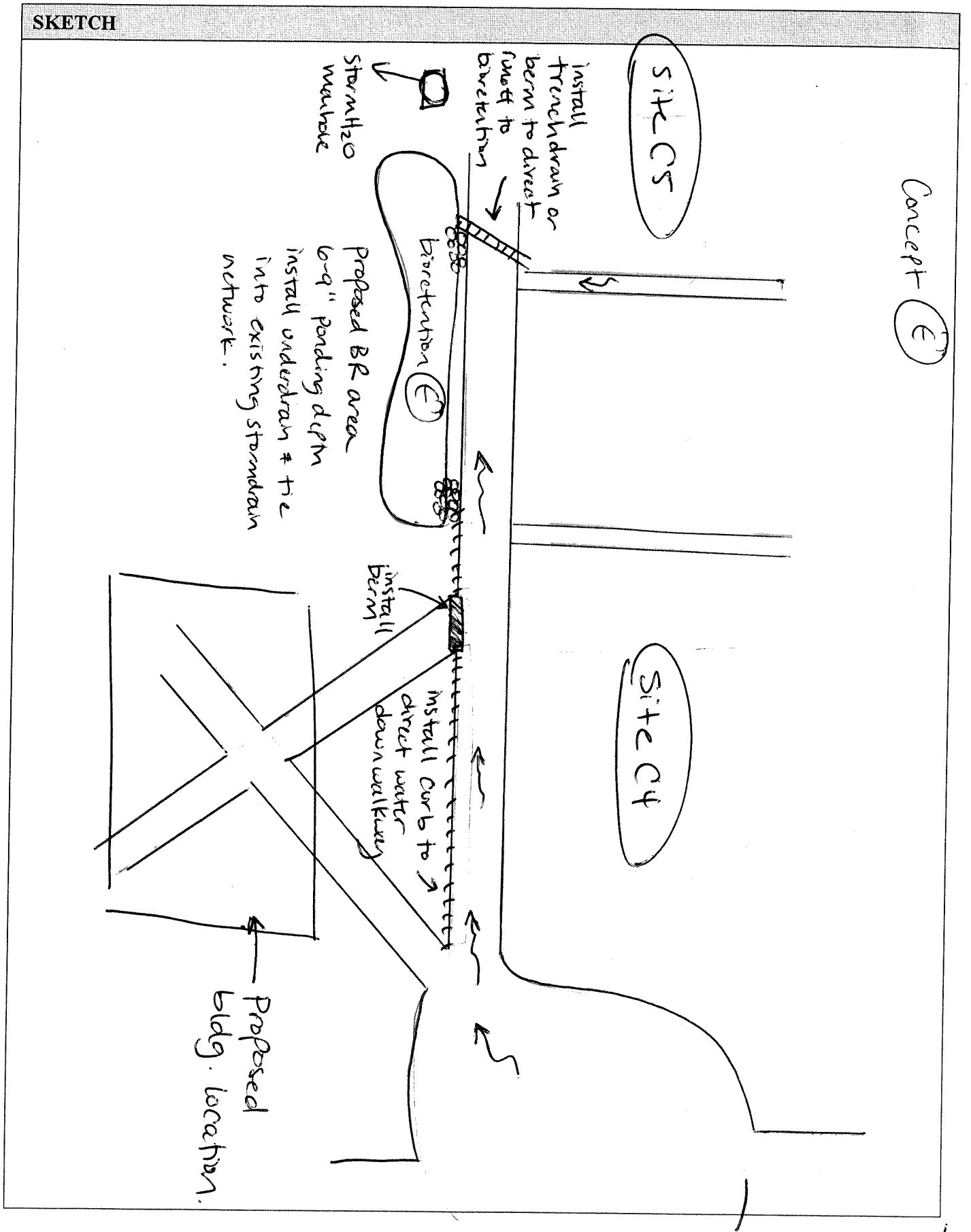
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☐ No	Compacted.
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No	Use underdrains in
Evidence of shallow bedrock:	☐ Yes	☐ No	designs.
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No	

Unique Site ID: C5

SKETCH



Unique Site ID: C4/C5

DESIGN OR DELIVERY NOTES

- use water from cistern to irrigate landscaping.
- Several opportunities at this site to disconnect IC.
- many projects at sites C4 + C5 can be designed similarly.
- New bldg is being ~~constructed~~ planned for adjacent site. This may influence/affect project (E)
- Soils are compacted. Need to include underdrains in bioretention designs.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

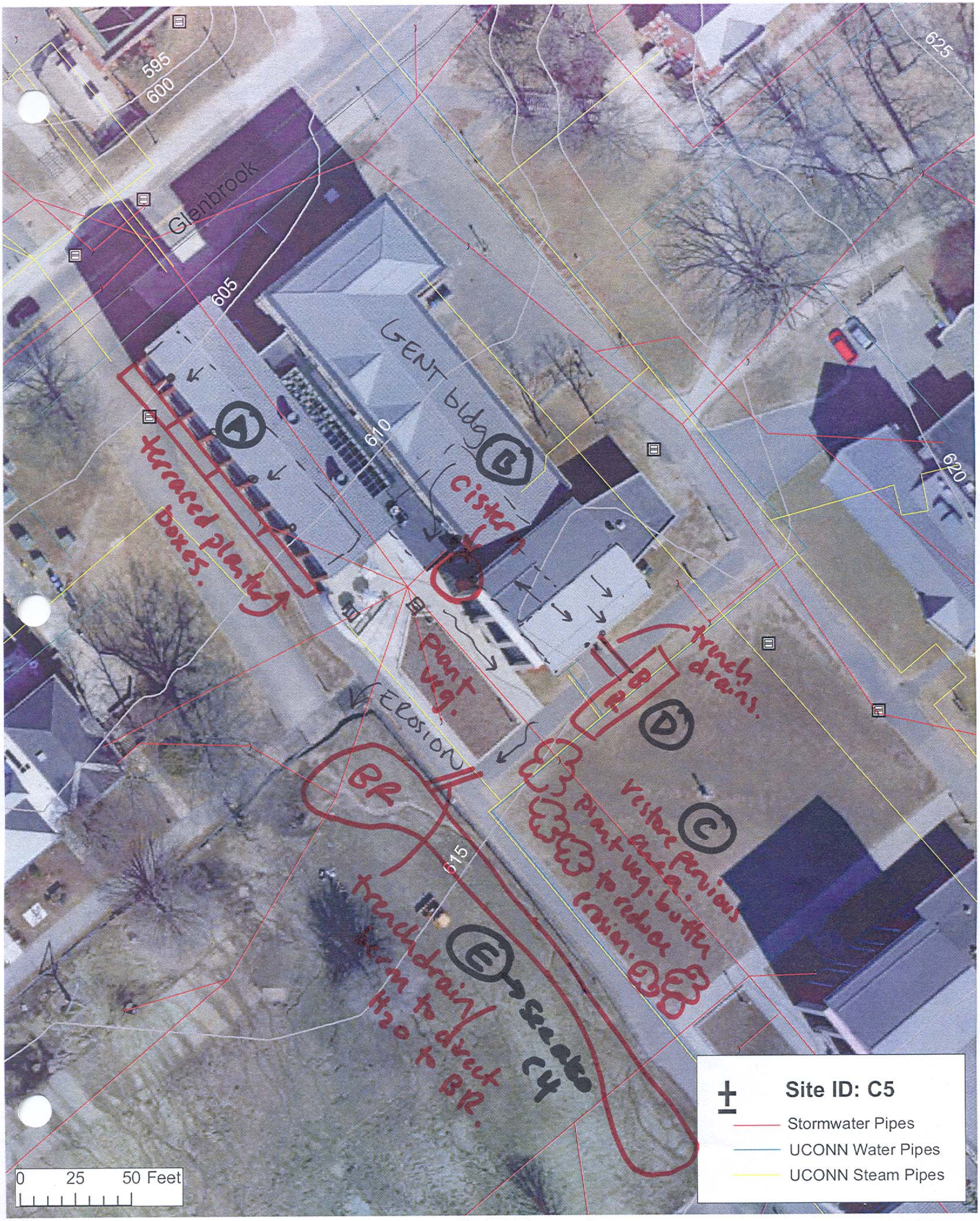
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Projects (B) + (D) are good for student education / demo. Students can be involved in design / build.
- Timing of project (E) should be after construction of new bldg in quad area.
- Can package construction for sites C4 + C5 due to design similarities.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C4 / C5



595
600
625
Glenbrook
605
610
620
615
GENT bldg
A
B
cistern
terraced planter boxes.
trench drains.
plant veg.
EROSION
BR
D
C
restore pervious area.
plant veg. buffer to reduce erosion.
E
trenchdrain/berm to direct H2O to BR.
Site ID: C5
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C6	
DATE: 7/15/09	ASSESSED BY: KAC/ACK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: DORM - William H Hall (HALL)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.123 acre
Imperviousness ≈ 100 %
Impervious Area ≈ 5375 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

External Downspouts directly connected to stormdrain system

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☒ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

425 cf

Retrofit Volume Computations - Available Storage:

WQv = Tv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Opportunity to disconnect downspouts to existing grassed areas + create BR areas w/ underdrains. Underdrains should connect to existing storm drain system

- Alternative concept would be to restore the surrounding site soils + do a simple downspout disconnection. Need to confirm soil types & degree of compaction.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park Dorms
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Compacted soils? Check

Unique Site ID: C6

SKETCH

See aerial for BP opps.

- 6-9" ponding depth w/ underdrains

DESIGN OR DELIVERY NOTES

- Potential to involve students w/ design + construction

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Good student demo/education project. Involve students in design/build

- need to confirm underlying soils

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C6

Site ID: C6
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0 25 50 Feet
625
630
William H. Hall Bldg
BR
BR
BR
BR
BR
cannot disconnect this portion only!

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C7	
DATE: 7/15/09	ASSESSED BY: ACK/KAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: Pavement area in front of CS (GENT bldg)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: U Conn

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☒ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.061 acre
Imperviousness ≈ 100 %
Impervious Area ≈ 2650 SF.

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

runoff from impervious area drains to storm drain system

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☐ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other: Runoff Reduction

Retrofit Volume Computations - Target Storage:

172 cf

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☒ Other: IC removal

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Remove pavement & restore underlying area by removing impervious & planting trees.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe: need to check w/ campus transportation. Maybe old construction

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:

Conflicts with Existing Utilities: access?
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☐ Not Probable
Impacts to Wetlands	☐ Probable	☐ Not Probable
Impacts to a Stream	☐ Probable	☐ Not Probable
Floodplain Fill	☐ Probable	☐ Not Probable
Impacts to Forests	☐ Probable	☐ Not Probable
Impacts to Specimen Trees	☐ Probable	☐ Not Probable

How many?
Approx. DBH

Other factors:

Soils:

Soil auger test holes:	☐ Yes	☐ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☐ No
Evidence of high water table (gleying, saturation):	☐ Yes	☐ No

Unique Site ID:

SKETCH

See aerial

Unique Site ID: C7

DESIGN OR DELIVERY NOTES

- Area may have been used for construction access. It is recommended that temporary rubber matting be used instead of permanent pavement.

- Road appears to serve no particular area.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

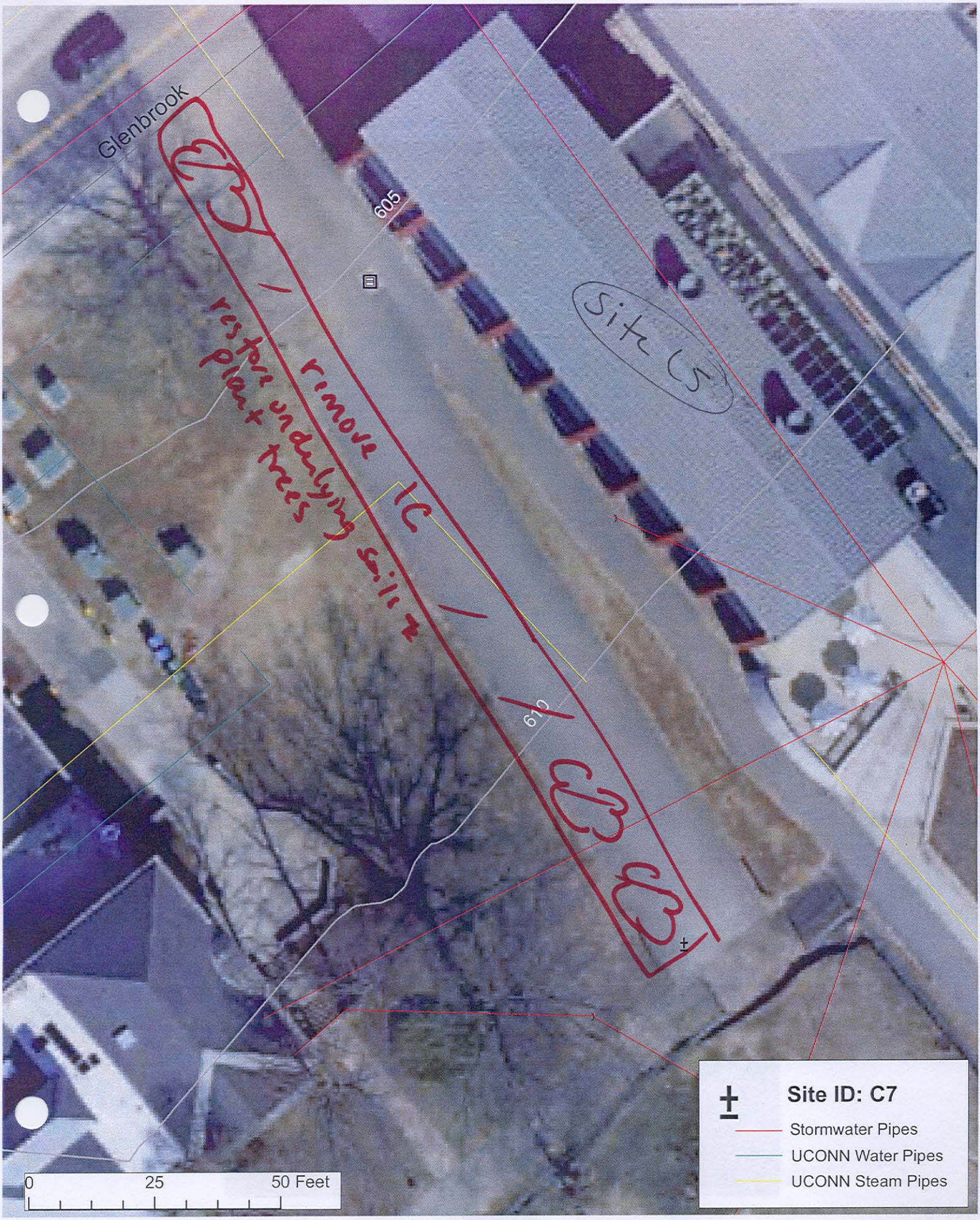
INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Low Priority.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C7


Glenbrook
605
610
Site C5
remove TC
restore underlying soil &
plant trees
C3
C3
C3
0
25
50 Feet
Site ID: C7
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C8	
DATE: 7/15/09	ASSESSED BY: KAC/AK	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: William Benton Art Museum (WBMA)
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☒ Other: UConn.

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.036 acres
Imperviousness ≈ 100 %
Impervious Area ≈ 1573 SF

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

External downspouts directly connected to stormdrain system.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [x] Demonstration / Education
- [x] Recharge ?
- [ ] Repair
- [ ] Channel Protection
- [x] Other: Runoff Reduction.
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

125 CF

Retrofit Volume Computations - Available Storage:

WQv = Tv

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Wet Pond
- [ ] Created Wetland
- [x] Bioretention w/ Underdrain.
- [ ] Filtering Practice
- [ ] Infiltration
- [ ] Swale
- [ ] Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Disconnect downspouts on S side of Bldg & convey north to constructed BR area.

Avoid sewer line.

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [x] No

If Yes, Describe:

Access:
- [x] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [ ] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:

Conflicts with Existing Utilities:
- [ ] None
- [ ] Unknown

Yes	Possible	
[ ]	[x]	Sewer - Avoid
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[ ] Probable	[x] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[ ] Probable	[x] Not Probable
Impacts to Specimen Trees	[ ] Probable	[x] Not Probable

How many?

Approx. DBH

Other factors:

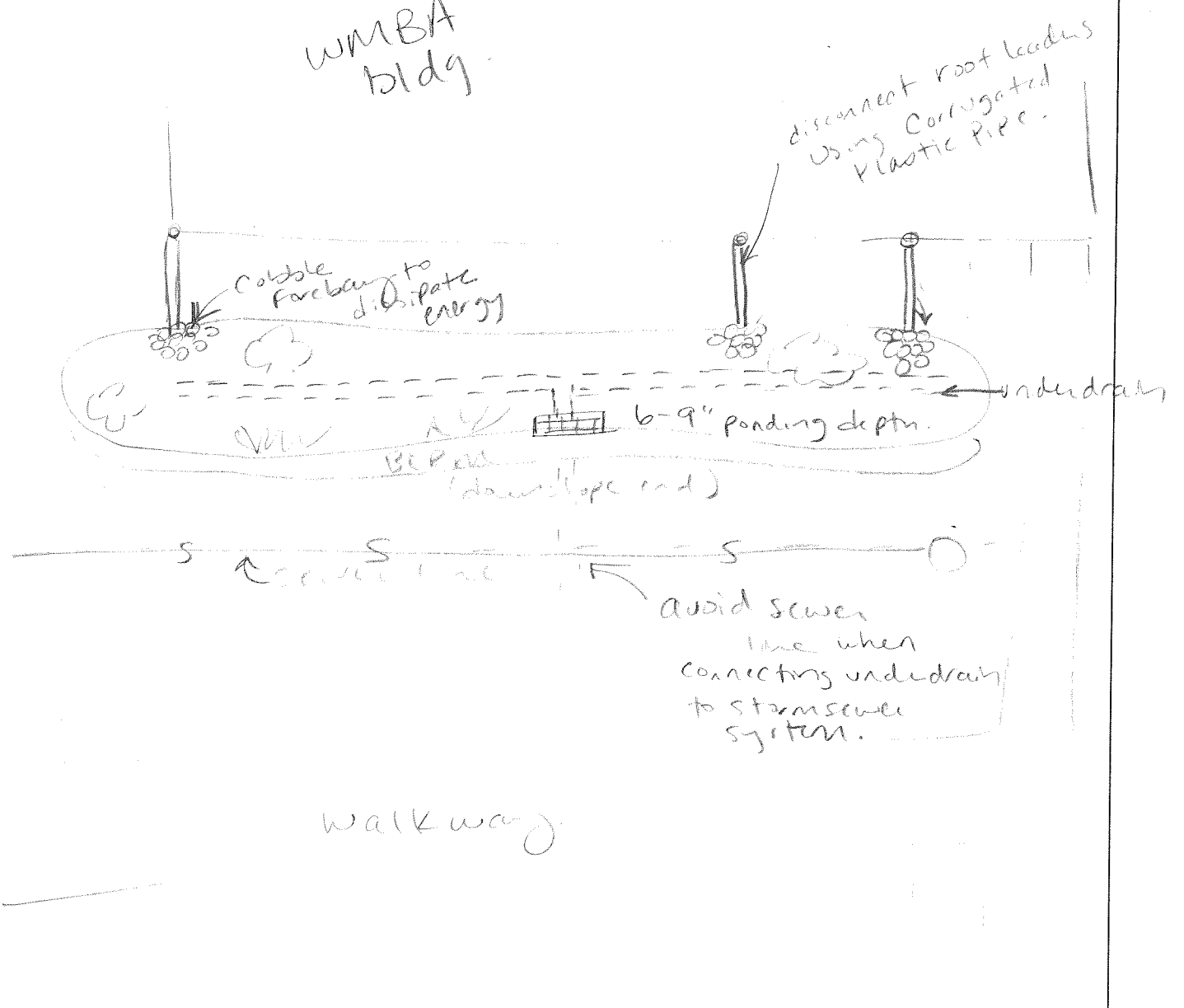
Soils:

Soil auger test holes:	[ ] Yes	[ ] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[ ] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

Compacted fill.

Unique Site ID: C8

SKETCH



Unique Site ID: C8

DESIGN OR DELIVERY NOTES

- major foundation / drainage work is underneath rear of bldg - further investigation needed.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

- Obtain SW drainage plans for bldg before completing design.
- Good student education / demo site can involve students in design / build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: 03


630
625
620
615
WBMA
Undergoing construction damage?
Site ID: C8
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: Eagleville	SUBWATERSHED:	UNIQUE SITE ID: C9	
DATE: 7/15/09	ASSESSED BY: ACK/KAC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: UConn Student Union.
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown ☒ Other: institutional
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 0.399 ac
Imperviousness ≈ ~~0.593~~ % 59.3
Impervious Area ≈ 10,320 sf.

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

Rooftop runoff + runoff from terrace area drain (sheetflow) down steep slope. Erosion from slope is resulting in high sediment loads to storm drain. Slope also experiences heavy foot traffic.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

WQv = 846 CF

Retrofit Volume Computations - Available Storage:

Tv = WQv

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Construct BR area near existing yard drain to capture runoff. Create a terraced check dam system down the slope to dissipate runoff energy.

Can also construct a permeable pavement walkway (stairs) up heavy traffic area on slope.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☒ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☒ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Construction / design Constraint.

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

Other factors:_____

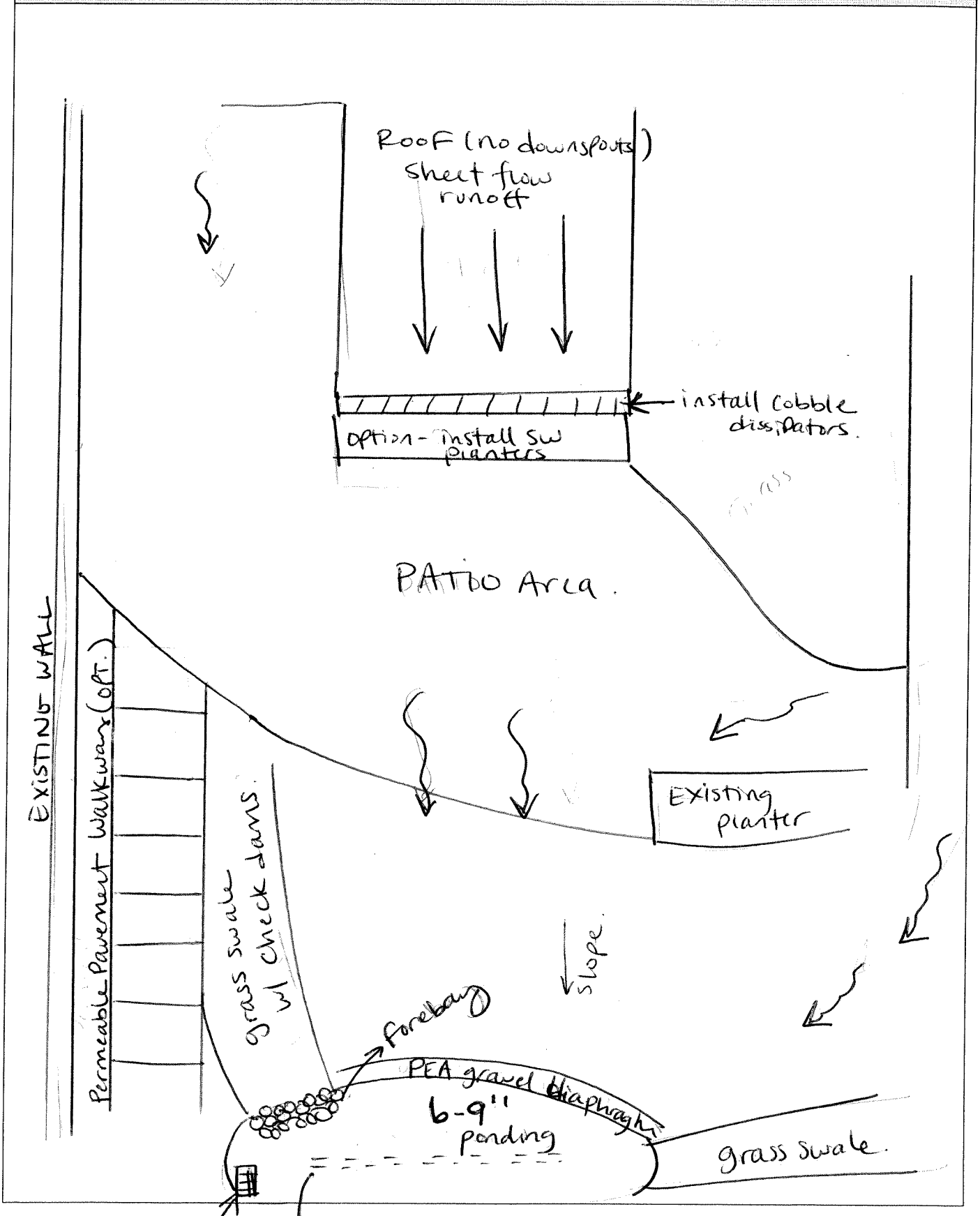
Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☒ Yes	☐ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Compacted fill soils.

Unique Site ID: C9

SKETCH



Unique Site ID: C9

DESIGN OR DELIVERY NOTES

- High visibility
- project area is somewhat slope constrained. need to include check dams / energy dissipators in design.
- soils are compacted. need to include underdrains in designs.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

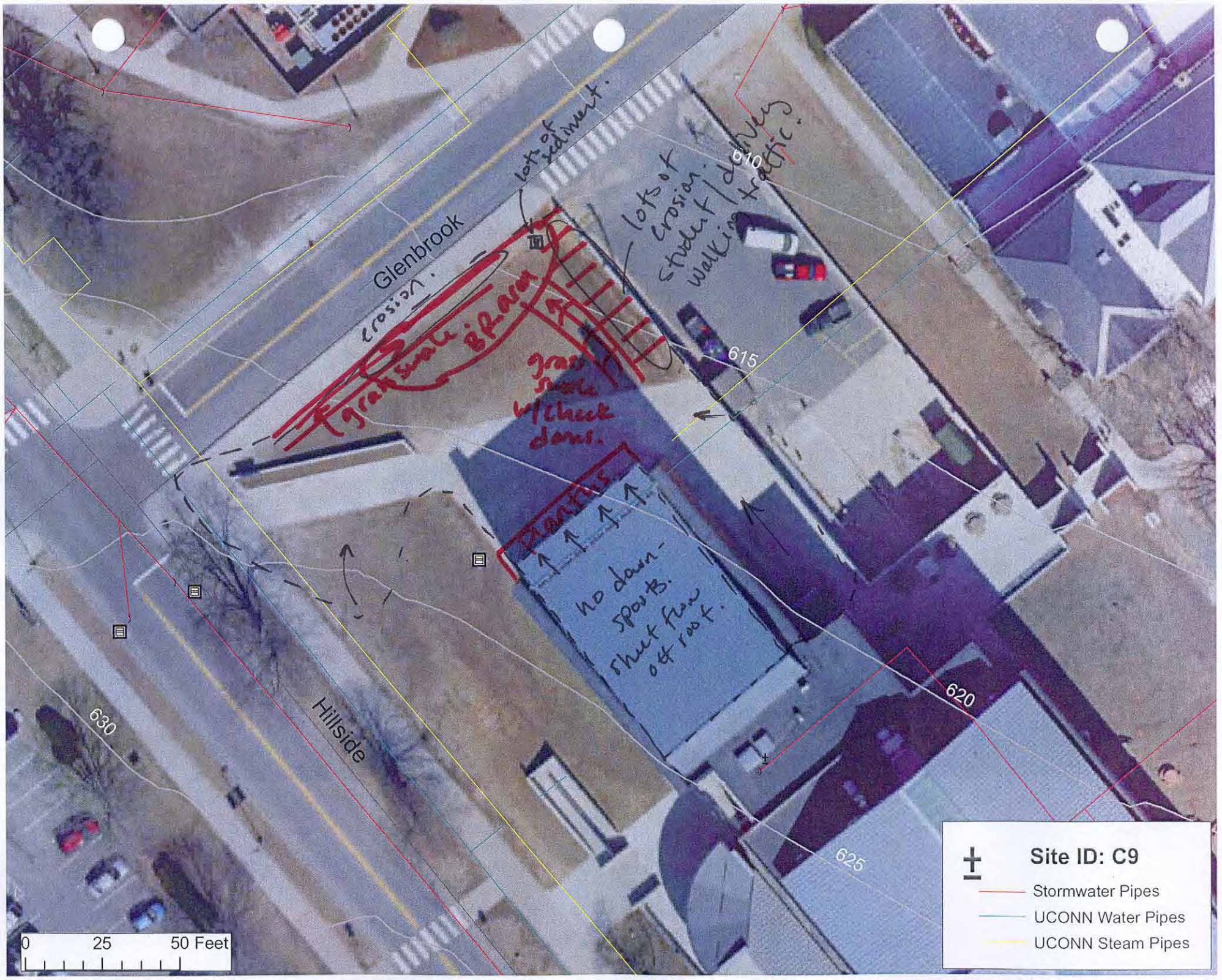
Higher Priority site → Lots of sediment in / around stormdrain.

- Good education / demo project. High visibility. Involve students in design / build.

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C9


Glenbrook
Hillside
lots of sediment.
lots of erosion. student / delivery walking traffic.
no down-spouts. sheet flow off roof.
610
615
620
625
630
0
25
50 Feet
Site ID: C9
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE Br.	SUBWATERSHED:		UNIQUE SITE ID: C100
DATE: 7/16	ASSESSED BY: DSC/CA/RES/JR	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: W LOT
Address:

Ownership: ☒ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☐ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈
Imperviousness ≈ %
Impervious Area ≈ 2.49 acres

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

EXSTING SWALE CAPTURES PARKING LOT DRAINAGE.

Existing Head Available and Points Where Measured:

Unique Site ID: C100

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

DIVERT FLOW FROM EXISTING SWALE TO BIORETENTION PRACTICE. OVERFLOW TO EXISTING STORM DRAIN. INSTALL UNDERDRAIN + ATTACH TO STORM DRAIN.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☒ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

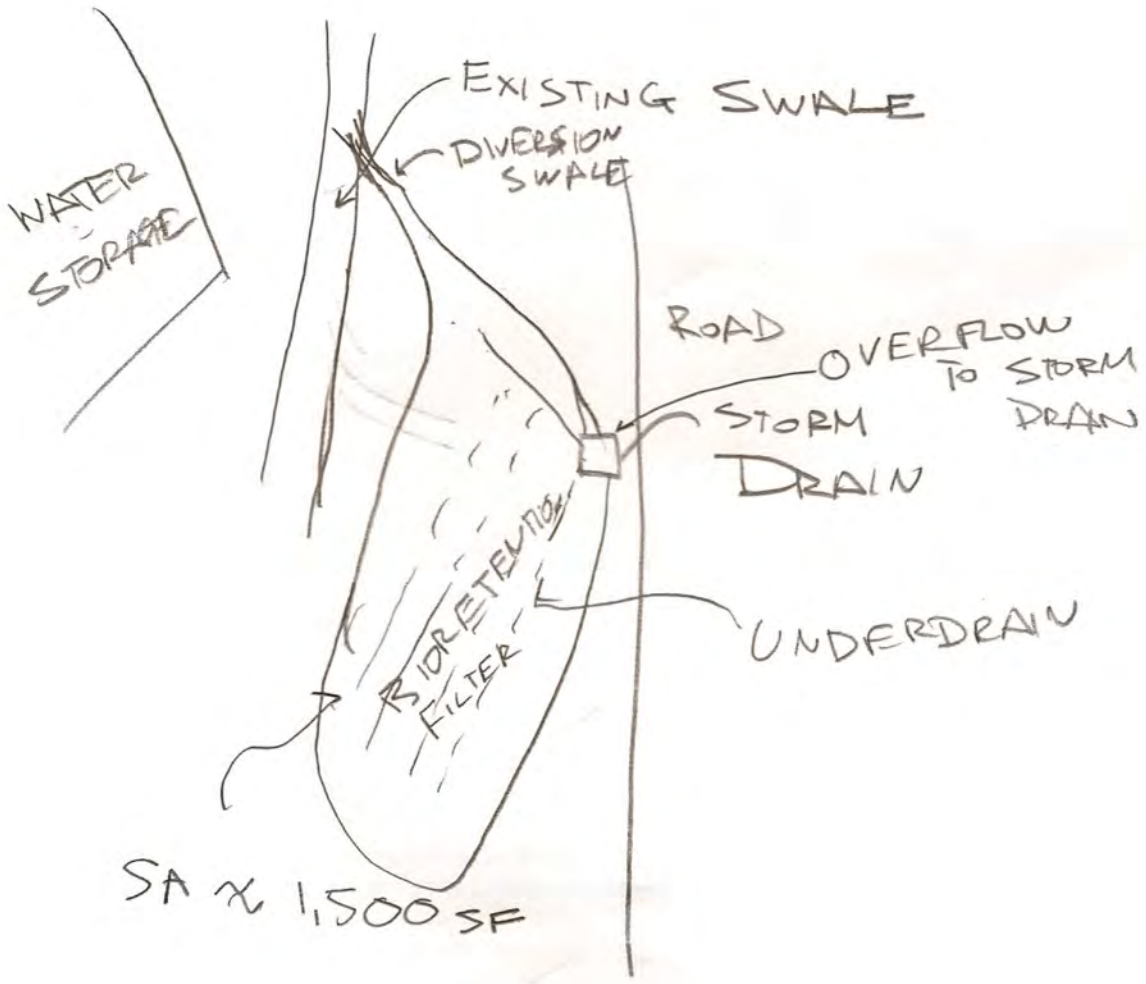
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Unique Site ID: 400

SKETCH



Unique Site ID: C100

DESIGN OR DELIVERY NOTES

INVESTIGATE DRAINAGE AREA IN MORE DETAIL (STORM DRAIN MAPS).

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☑ Obtain detailed topography
- ☑ Obtain utility mapping
- ☑ Confirm storm drain invert elevations
- ☑ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☑ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C100


700
710
715
720
725
705
Parking Lot
Tower Loop
Unnamed Street
Unnamed Street
690
685
0 30 60 Feet
Site ID: C100
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE B	SUBWATERSHED:		UNIQUE SITE ID: C101
DATE: 7/16	ASSESSED BY: DSC/JP/CA/RES	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: W LOT 5
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☒ State ☐ DOT ☐ Other: _____

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other: _____
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ .69 acres

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

CURRENTLY, DRAINAGE FROM PARKING LOT CONVEYED VIA CURBS TO STORM DRAIN.

Existing Head Available and Points Where Measured:

Unique Site ID: _____

PROPOSED RETROFIT

Purpose of Retrofit:
☑ Water Quality ☑ Recharge ? ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☑ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

CURB CUTS & SWALES TO CONVEY TO PROPOSED PRACTICE. OVERFLOW TO EXISTING STORM DRAIN.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☑ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☑ No
If Yes, Describe:

Access:
☑ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☑ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☑ Not Probable
Impacts to Wetlands	☐ Probable	☑ Not Probable
Impacts to a Stream	☐ Probable	☑ Not Probable
Floodplain Fill	☐ Probable	☑ Not Probable
Impacts to Forests	☐ Probable	☑ Not Probable
Impacts to Specimen Trees	☐ Probable	☑ Not Probable

How many?_____
Approx. DBH_____

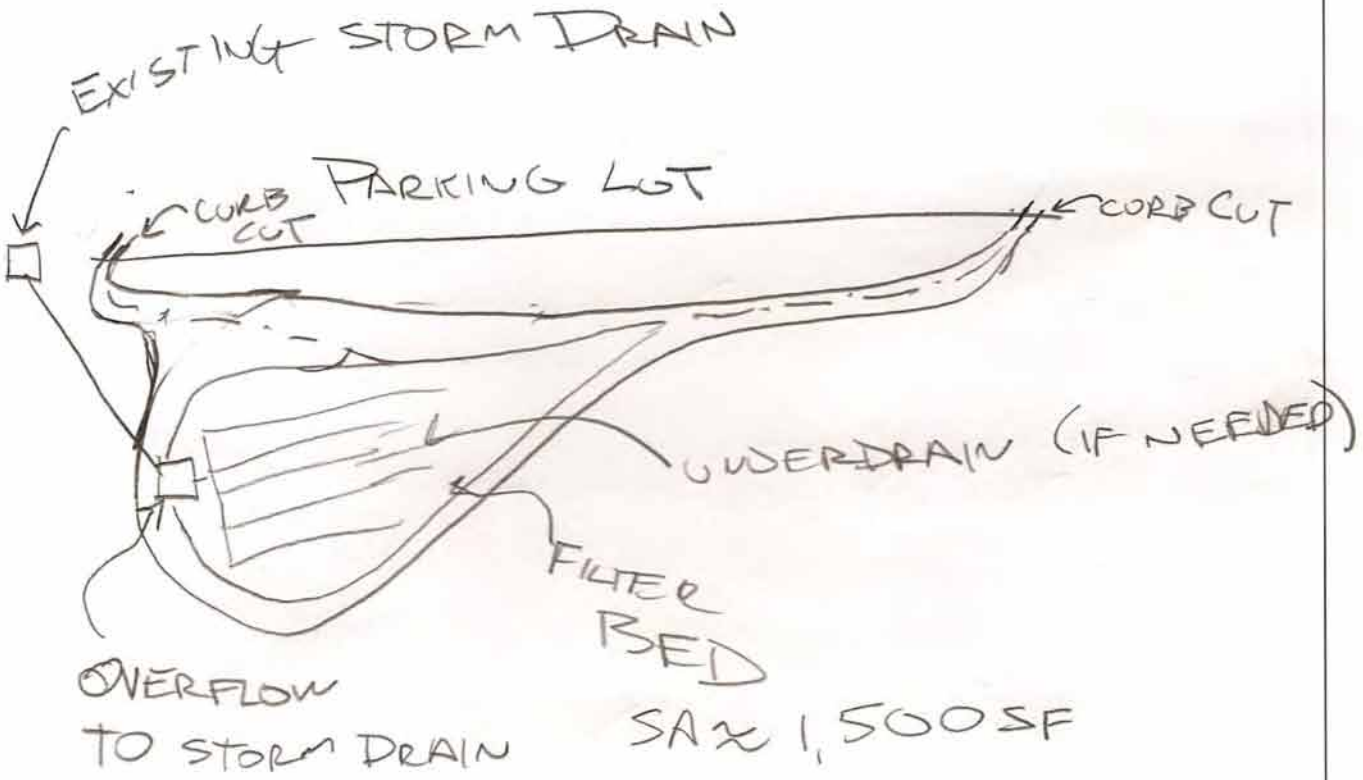
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☑ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☑ No
Evidence of shallow bedrock:	☐ Yes	☑ No
Evidence of high water table (gleying, saturation):	☐ Yes	☑ No

Unique Site ID: C101

SKETCH



Unique Site ID: C101

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☒ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☒ Obtain detailed topography
- ☐ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☒ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☐ NO	☒ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C101


705
700
Tower Loop
Unnamed Street
CURB CUTS
BIO-RETENTION
OVERFLOW STRUCTURE
Unnamed Street
685
690
680
0 20 40 Feet
Site ID: C101
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE	SUBWATERSHED:		UNIQUE SITE ID: C102
DATE: 7/16	ASSESSED BY: DSCI CNJRI PES	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: TOWERS RESIDENCE HALL
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☒ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☒ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☐ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈
Imperviousness ≈ %
Impervious Area ≈ .32 acres

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

PARKING LOT DRAINAGE CAPTURED BY A SINGLE STORM DRAIN

Existing Head Available and Points Where Measured:

Unique Site ID: C102

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ? ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☒ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

Trench drain to convey flows to bioretention. Overflow to existing storm drain.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints → POSSIBLE
Constrained due to
☐ Slope ☐ Space
☒ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☒	Sewer
☒	☒	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

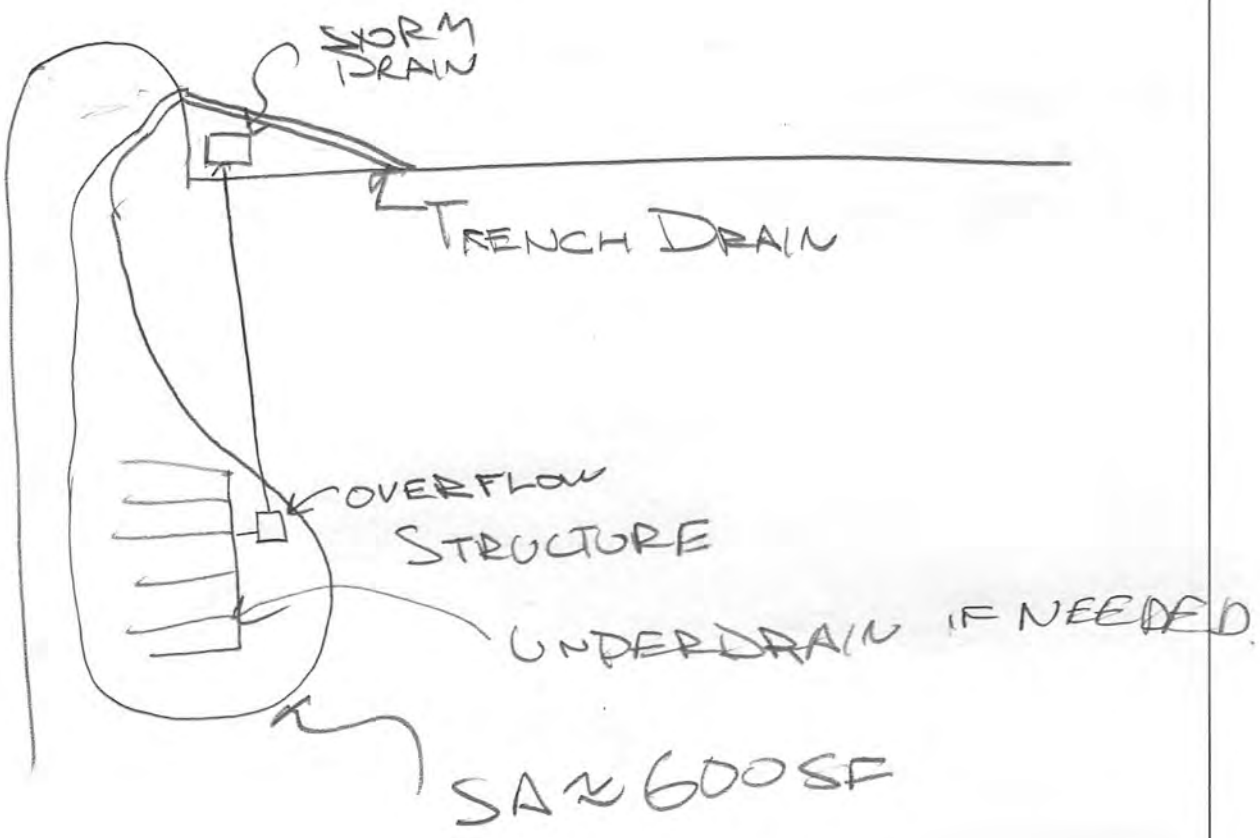
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Unique Site ID: C102

SKETCH



NOTE: EXISTING WATER / SEWER POTENTIAL CONFLICTS

DESIGN OR DELIVERY NOTES

POTENTIAL UTILITY CONFLICTS

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

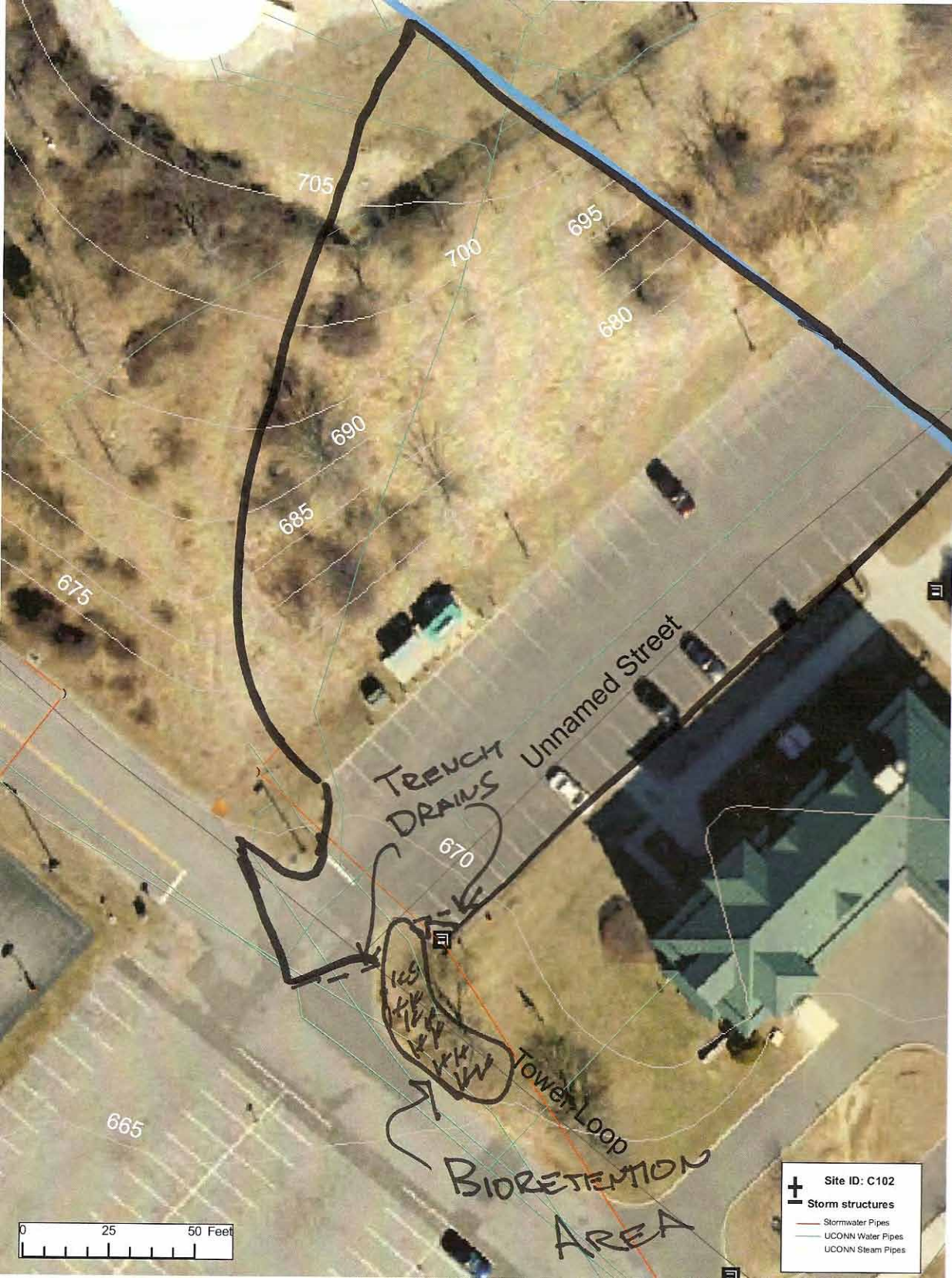
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☒ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☒ Obtain detailed topography
- ☒ Obtain utility mapping
- ☒ Confirm storm drain invert elevations
- ☒ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☒ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☒ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C102


705
700
695
680
690
685
675
665
670
Unnamed Street
TRENCH DRAINS
Tower Loop
BIORETENTION AREA
0
25
50 Feet
Site ID: C102
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: C103	
DATE:	*ASSESSED BY:*	*CAMERA ID:*	*PICTURES:*
GPS ID:	**LMK ID:**	**LAT:**	**LONG:**

SITE DESCRIPTION

Name: TOWERS HALLS
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☒ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☒ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ .12 acres

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☒ Yes ☐ No ☐ Possible
If Yes, Describe:

EXISTING BIORETENTION W/ SOME CONVEYANCE ISUES. (FLOW BYPASSES) CAPTURES FLOW FROM IMMEDIATE AREA.

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

REMAINDER OF SITE FLOWS TO STORM DRAIN SYSTEM.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
- [x] Water Quality
- [ ] Recharge
- [ ] Channel Protection
- [ ] Flood Control
- [ ] Demonstration / Education
- [ ] Repair
- [ ] Other:

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
- [ ] Extended Detention
- [ ] Wet Pond
- [ ] Created Wetland
- [x] Bioretention
- [ ] Filtering Practice
- [ ] Infiltration
- [ ] Swale
- [ ] Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

EXPAND TO ~400 SF
CONVEY ADDITIONAL DRAINAGE
W/ TRENCH DRAINS.

SITE CONSTRAINTS

Adjacent Land Use:
- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [ ] No

If Yes, Describe:

Access:
- [x] No Constraints

Constrained due to
- [ ] Slope
- [ ] Space
- [ ] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [x] Other: POSSIBLE SIDEWALK IMPACT

Conflicts with Existing Utilities:
- [x] None
- [ ] Unknown

Yes	Possible	
[ ]	[ ]	Sewer
[ ]	[ ]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[ ] Probable	[x] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[ ] Probable	[ ] Not Probable
Impacts to Specimen Trees	[ ] Probable	[x] Not Probable

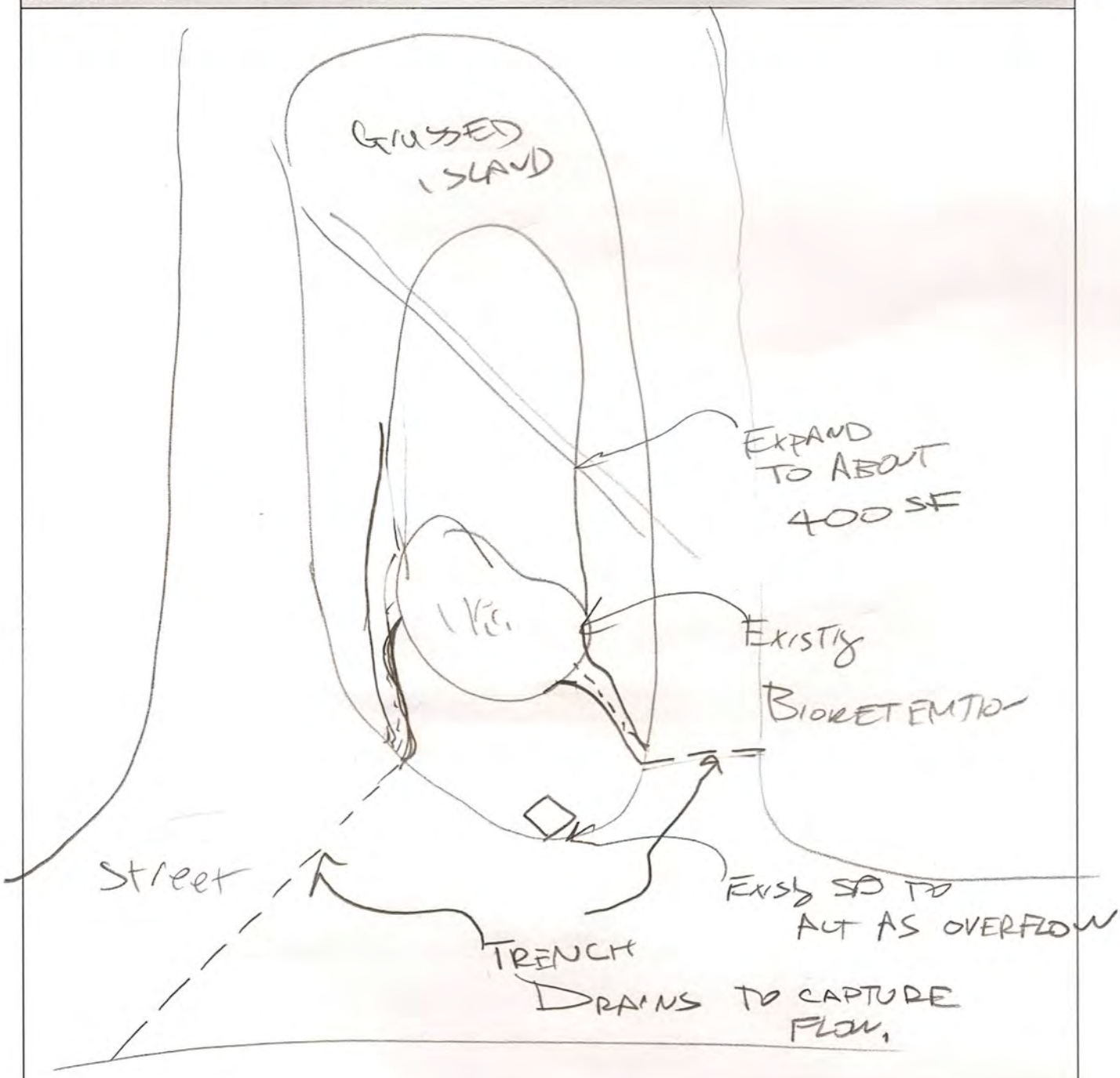
How many?
Approx. DBH

Other factors:

Soils:

Soil auger test holes:	[ ] Yes	[x] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[x] No
Evidence of shallow bedrock:	[ ] Yes	[ ] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[x] No

SKETCH



Unique Site ID: C103

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

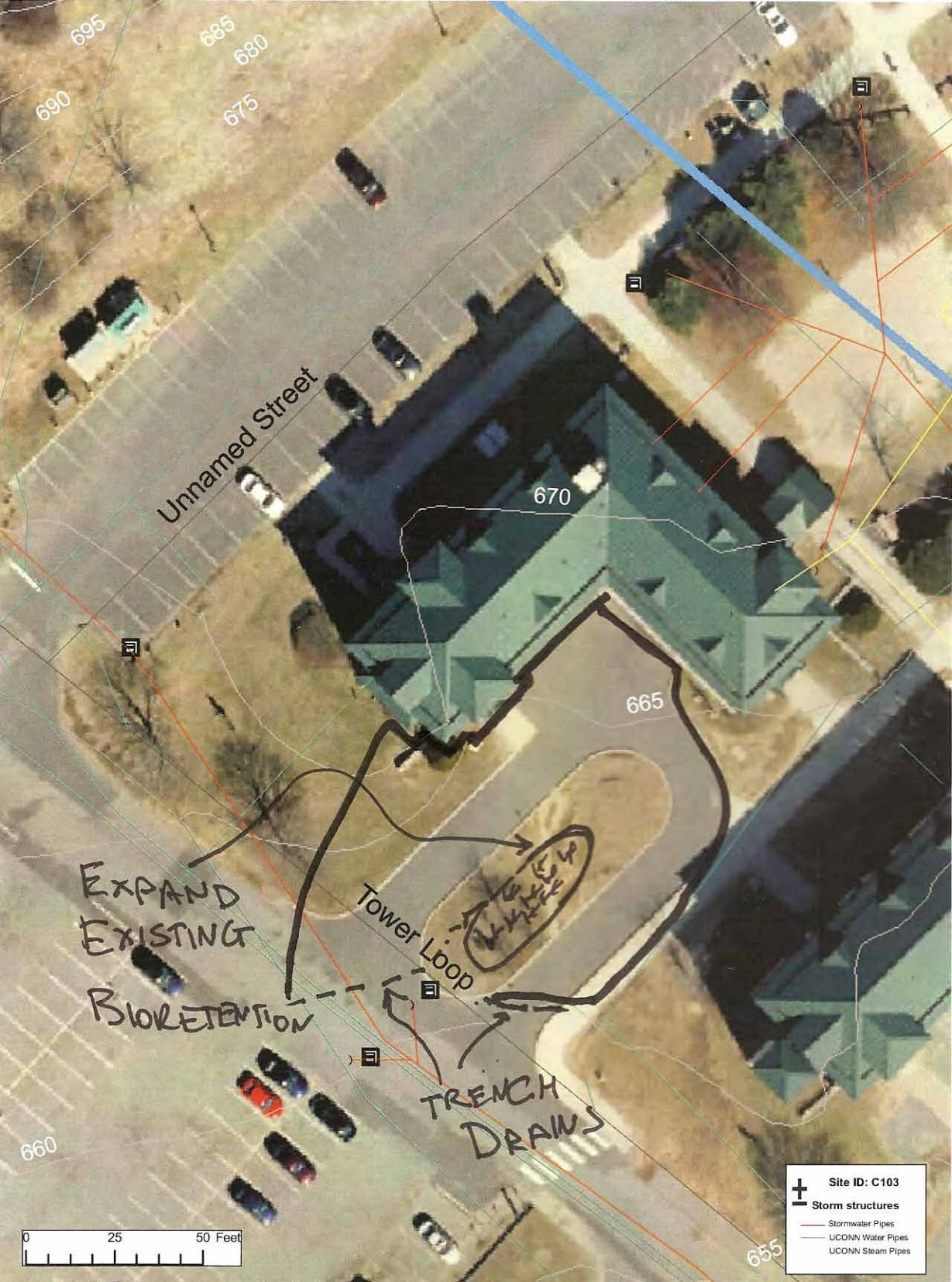
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☑ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☑ Obtain site as-builts
- ☑ Obtain detailed topography
- ☐ Obtain utility mapping
- ☑ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☑ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☑ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: 403


695
685
680
690
675
Unnamed Street
670
665
EXPAND EXISTING BIORETENTION
Tower Loop
TRENCH DRAINS
660
655
0
25
50 Feet
Site ID: C103
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes

Retrofit Reconnaissance Investigation **RRI**

WATERSHED: EAGLEVILLE	SUBWATERSHED: ~~C104~~	UNIQUE SITE ID: C104	
DATE: 7/16	ASSESSED BY: DSL/PES/CA/SR	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: TOWERS RESIDENCE HALLS
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☑ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☑ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other:
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☑ Landscape / Hardscape
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ 16,754 ft2
Imperviousness ≈ 65%
Impervious Area ≈ .22 acres

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☐ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☑ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

ROAD DRAINAGE CAPTURED IN STORM DRAINS.

Existing Head Available and Points Where Measured:

Unique Site ID: C104

PROPOSED RETROFIT

Purpose of Retrofit:

- [x] Water Quality
- [x] Demonstration / Education
- [ ] Recharge
- [ ] Repair
- [ ] Channel Protection
- [ ] Other:
- [ ] Flood Control

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:

- [ ] Extended Detention
- [ ] Filtering Practice
- [ ] Wet Pond
- [ ] Infiltration
- [ ] Created Wetland
- [ ] Swale
- [x] Bioretention
- [ ] Other:

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

2 SMALL BIORETENTIONS (RAIN GARDENS) TO CAPTURE ROAD DRAINAGE

TRENCH DRAINS CAPTURE DRAINAGE.

SITE CONSTRAINTS

Adjacent Land Use:

- [ ] Residential
- [ ] Commercial
- [x] Institutional
- [ ] Industrial
- [ ] Transport-Related
- [ ] Park
- [ ] Undeveloped
- [ ] Other:

Possible Conflicts Due to Adjacent Land Use? [ ] Yes [ ] No

If Yes, Describe:

Access:

- [x] No Constraints

Constrained due to

- [ ] Slope
- [ ] Space
- [ ] Utilities
- [ ] Tree Impacts
- [ ] Structures
- [ ] Property Ownership
- [ ] Other:

Conflicts with Existing Utilities:

- [ ] None
- [ ] Unknown

Yes	Possible	
[ ]	[x]	Sewer
[ ]	[x]	Water
[ ]	[ ]	Gas
[ ]	[ ]	Cable
[ ]	[ ]	Electric
[ ]	[ ]	Electric to Streetlights
[ ]		Overhead Wires
[ ]	[ ]	Other:

Potential Permitting Factors:

Dam Safety Permits Necessary	[ ] Probable	[x] Not Probable
Impacts to Wetlands	[ ] Probable	[x] Not Probable
Impacts to a Stream	[ ] Probable	[x] Not Probable
Floodplain Fill	[ ] Probable	[x] Not Probable
Impacts to Forests	[ ] Probable	[x] Not Probable
Impacts to Specimen Trees	[ ] Probable	[x] Not Probable

How many?

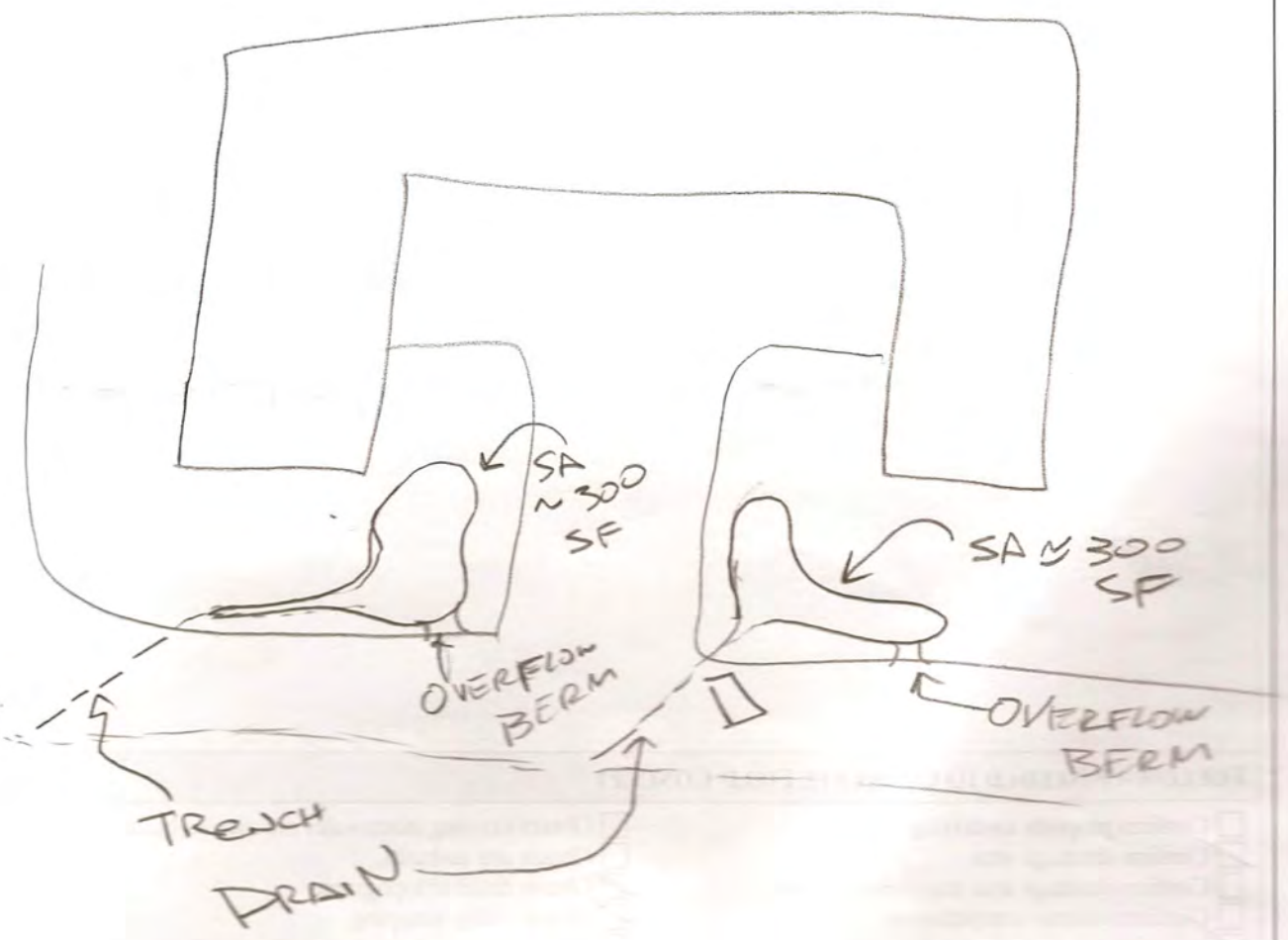
Approx. DBH

Other factors:

Soils:

Soil auger test holes:	[ ] Yes	[x] No
Evidence of poor infiltration (clays, fines):	[ ] Yes	[x] No
Evidence of shallow bedrock:	[ ] Yes	[x] No
Evidence of high water table (gleying, saturation):	[ ] Yes	[ ] No

SKETCH



Unique Site ID: C104

DESIGN OR DELIVERY NOTES

NEED TO CONFIRM LOCATION OF SEWER.

MAY NEED TO FINGERPRINT AROUND SEWER/WATER.

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

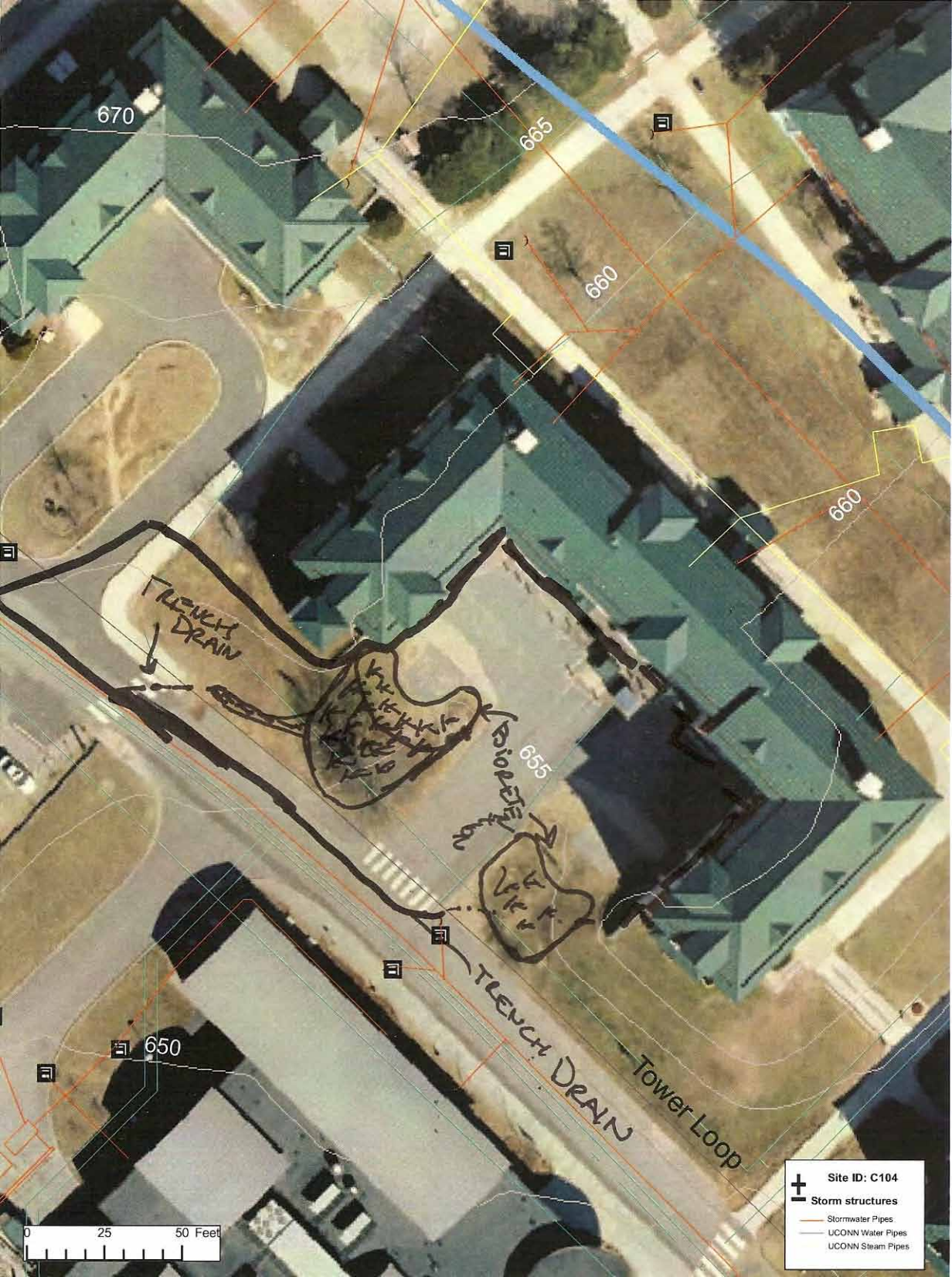
- ☐ Confirm property ownership
- ☑ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☑ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☑ Obtain detailed topography
- ☑ Obtain utility mapping
- ☑ Confirm storm drain invert elevations
- ☑ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☑ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☑ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C104


670
665
660
660
655
650
TRENCH DRAIN
TRENCH DRAIN
Tower Loop
Site ID: C104
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: EAGLEVILLE	SUBWATERSHED:	UNIQUE SITE ID: C105

DATE: 7/16	ASSESSED BY: D&C/CAT/JR/RES	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: TOWERS RESIDENCE
Address: _____

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☒ State ☐ DOT ☐ Other: _____

Corresponding USSR/USA Field Sheet? ☐ Yes ☒ No If yes, Unique Site ID: _____

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Below Outfall
- ☐ In Road ROW
- ☐ Other: _____
- ☐ Above Roadway Culvert
- ☐ In Conveyance System
- ☐ Near Large Parking Lot

On-Site
- ☐ Hotspot Operation
- ☐ Small Parking Lot
- ☐ Individual Street
- ☐ Underground
- ☐ Individual Rooftop
- ☐ Small Impervious Area
- ☒ Landscape / Hardscape
- ☐ Other: _____

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☒ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other: _____

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☒ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

BARE / COMPACTED SOILS + EROSION IN COURTYARD

Existing Head Available and Points Where Measured:

Unique Site ID: C105

PROPOSED RETROFIT

Purpose of Retrofit:
☒ Water Quality ☒ Recharge ☐ Channel Protection ☐ Flood Control
☒ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☐ Bioretention SOIL AMENDMENTS
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:
~~FOR~~ TREE PLANTING

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☒ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____

Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☒ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☒ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☐	Other:_____

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☒ Not Probable
Impacts to Wetlands	☐ Probable	☒ Not Probable
Impacts to a Stream	☐ Probable	☒ Not Probable
Floodplain Fill	☐ Probable	☒ Not Probable
Impacts to Forests	☐ Probable	☒ Not Probable
Impacts to Specimen Trees	☐ Probable	☒ Not Probable

How many?_____
Approx. DBH_____

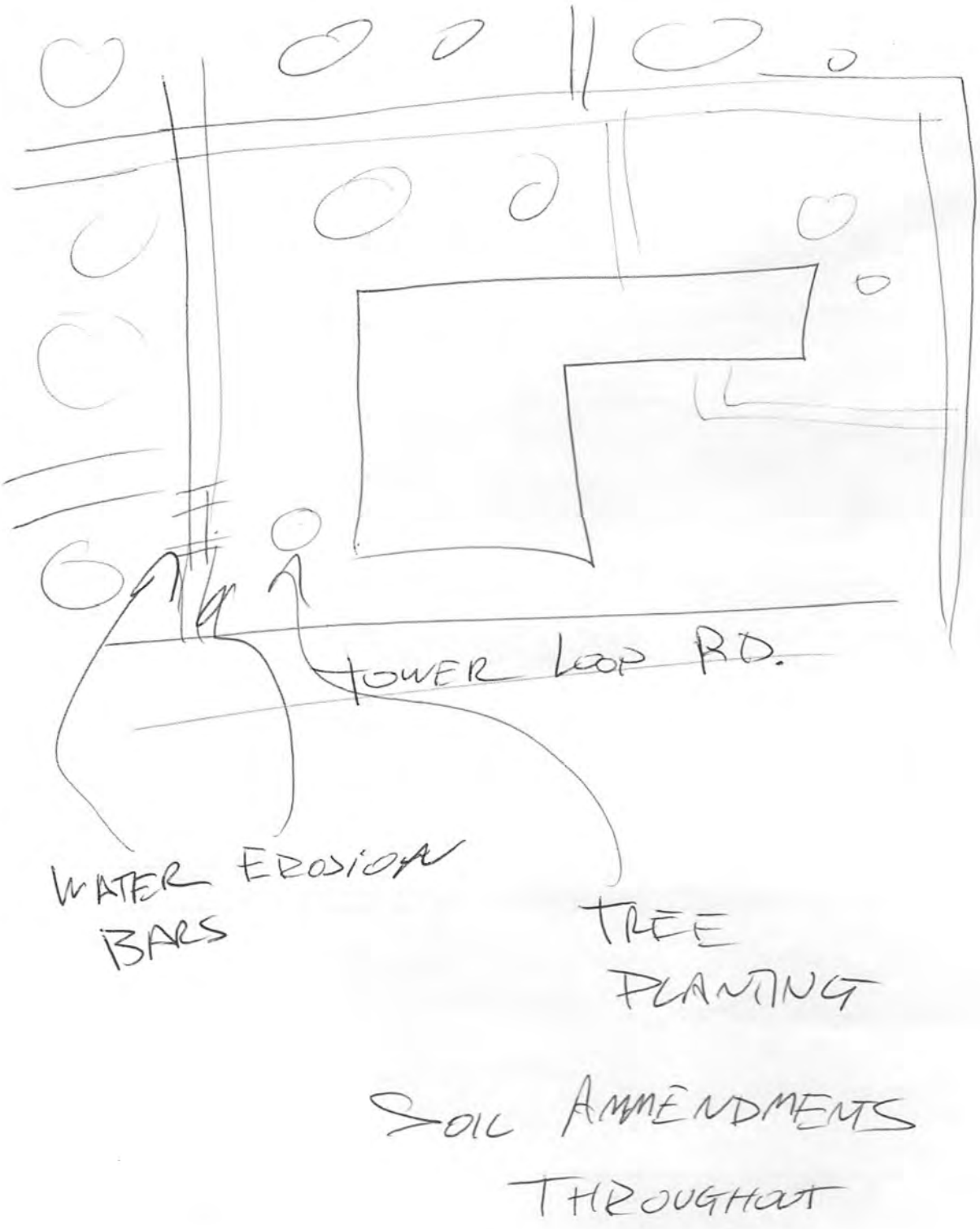
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☒ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☒ No
Evidence of shallow bedrock:	☐ Yes	☒ No
Evidence of high water table (gleying, saturation):	☐ Yes	☒ No

Unique Site ID: C105

SKETCH


TOWER LOOP RD.
WATER EROSION BARS
TREE PLANTING
SOIL AMMENDMENTS THROUGHOUT

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☐ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☑ YES	☐ NO	☐ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☑ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: CK5


WATER BARS
SOIL AMENDMENTS
660
655
650
640
SOIL AMENDMENT + TREE PLANTING
Tower Loop
SOIL AMENDMENT + TREE PLANTING
WATER BARS
N
Site ID: C105
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes
0
25
50 Feet

WATERSHED: ENGLEWILD BR	SUBWATERSHED:	UNIQUE SITE ID: C106	
DATE: 7/16	ASSESSED BY: PES/CAL/JR/DSC	CAMERA ID:	PICTURES:
GPS ID:	LMK ID:	LAT:	LONG:

SITE DESCRIPTION

Name: T LOT
Address:

Ownership: ☐ Public ☐ Private ☐ Unknown
If Public, Government Jurisdiction: ☐ Local ☑ State ☐ DOT ☐ Other:

Corresponding USSR/USA Field Sheet? ☐ Yes ☐ No If yes, Unique Site ID:

Proposed Retrofit Location:

Storage
- ☐ Existing Pond
- ☐ Above Roadway Culvert
- ☐ Below Outfall
- ☐ In Conveyance System
- ☐ In Road ROW
- ☐ Near Large Parking Lot
- ☐ Other:

On-Site
- ☐ Hotspot Operation
- ☐ Individual Rooftop
- ☑ Small Parking Lot
- ☐ Small Impervious Area
- ☐ Individual Street
- ☐ Landscape / Hardscape
- ☐ Underground
- ☐ Other:

DRAINAGE AREA TO PROPOSED RETROFIT

Drainage Area ≈ _____
Imperviousness ≈ _____ %
Impervious Area ≈ _____

Notes:

Drainage Area Land Use:
- ☐ Residential
  - ☐ SFH (< 1 ac lots)
  - ☐ SFH (> 1 ac lots)
  - ☐ Townhouses
  - ☐ Multi-Family
- ☐ Commercial
- ☑ Institutional
- ☐ Industrial
- ☐ Transport-Related
- ☐ Park
- ☐ Undeveloped
- ☐ Other:

EXISTING STORMWATER MANAGEMENT

Existing Stormwater Practice: ☐ Yes ☑ No ☐ Possible
If Yes, Describe:

Describe Existing Site Conditions, Including Existing Site Drainage and Conveyance:

STORMWATER CONVEYED TO STORM DRAIN IN SW CORNER OF THE LOT.

Existing Head Available and Points Where Measured:

PROPOSED RETROFIT

Purpose of Retrofit:
☑ Water Quality ☐ Recharge ☐ Channel Protection ☐ Flood Control
☐ Demonstration / Education ☐ Repair ☐ Other:_____

Retrofit Volume Computations - Target Storage:

Retrofit Volume Computations - Available Storage:

Proposed Treatment Option:
☐ Extended Detention ☐ Wet Pond ☐ Created Wetland ☑ Bioretention
☐ Filtering Practice ☐ Infiltration ☐ Swale ☐ Other:_____

Describe Elements of Proposed Retrofit, Including Surface Area, Maximum Depth of Treatment, and Conveyance:

TRENCH DRAINS CONVEY SW TO PROPOSED BIORETENTION. OVERFLOW TO STORM DRAIN NETWORK.

SITE CONSTRAINTS

Adjacent Land Use:
☐ Residential ☐ Commercial ☑ Institutional
☐ Industrial ☐ Transport-Related ☐ Park
☐ Undeveloped ☐ Other:_____
Possible Conflicts Due to Adjacent Land Use? ☐ Yes ☐ No
If Yes, Describe:

Access:
☐ No Constraints
Constrained due to
☐ Slope ☐ Space
☐ Utilities ☐ Tree Impacts
☐ Structures ☐ Property Ownership
☐ Other:_____

Conflicts with Existing Utilities:
☐ None
☐ Unknown

Yes	Possible	
☐	☐	Sewer
☐	☐	Water
☐	☐	Gas
☐	☐	Cable
☐	☐	Electric
☐	☐	Electric to Streetlights
☐		Overhead Wires
☐	☑	Other: STEAM (WORK AROUND)

Potential Permitting Factors:

Dam Safety Permits Necessary	☐ Probable	☑ Not Probable
Impacts to Wetlands	☐ Probable	☑ Not Probable
Impacts to a Stream	☐ Probable	☑ Not Probable
Floodplain Fill	☐ Probable	☑ Not Probable
Impacts to Forests	☐ Probable	☑ Not Probable
Impacts to Specimen Trees	☐ Probable	☑ Not Probable

How many?_____
Approx. DBH_____

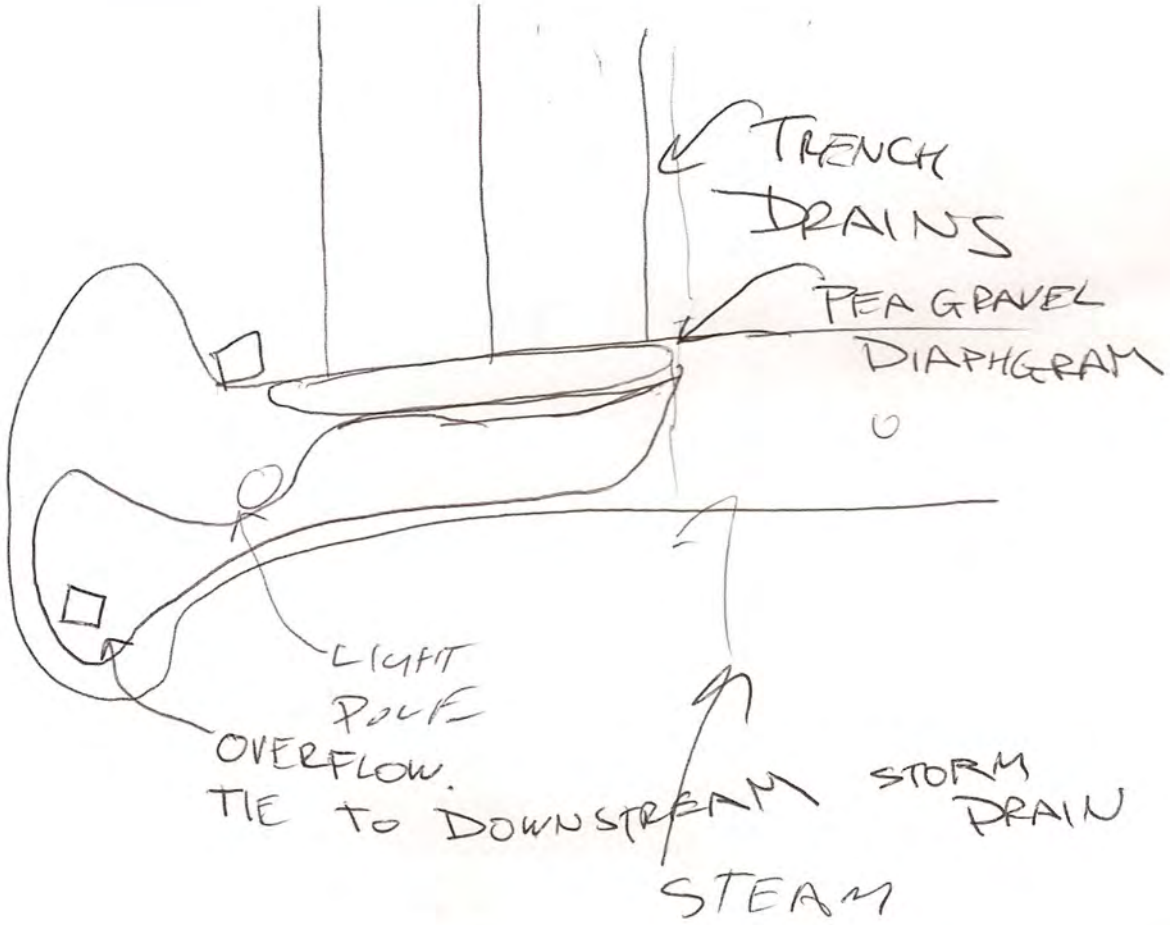
Other factors:_____

Soils:

Soil auger test holes:	☐ Yes	☑ No
Evidence of poor infiltration (clays, fines):	☐ Yes	☑ No
Evidence of shallow bedrock:	☐ Yes	☑ No
Evidence of high water table (gleying, saturation):	☐ Yes	☑ No

Unique Site ID: C106

SKETCH



Unique Site ID: C106

DESIGN OR DELIVERY NOTES

FOLLOW-UP NEEDED TO COMPLETE FIELD CONCEPT

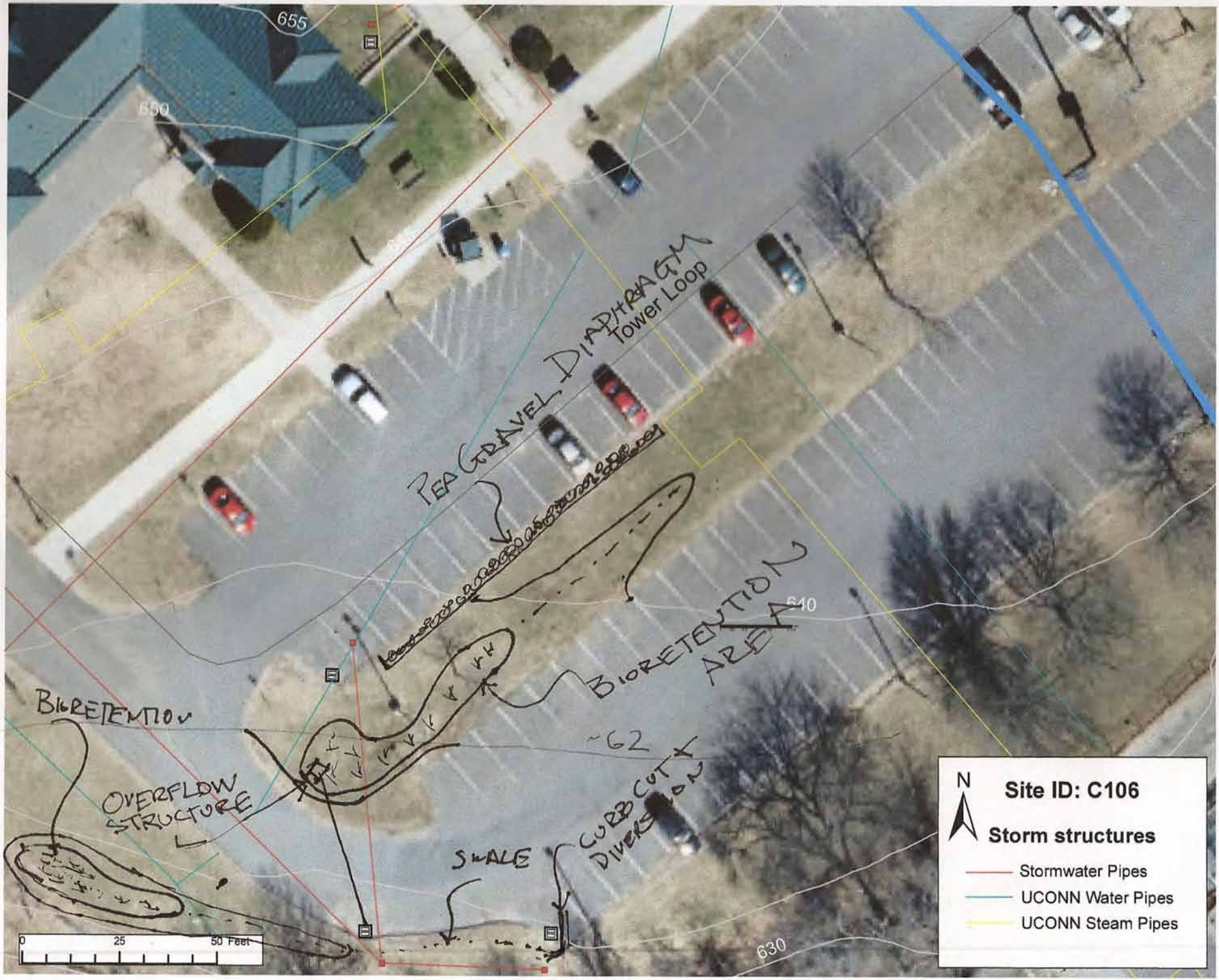
- ☐ Confirm property ownership
- ☐ Confirm drainage area
- ☐ Confirm drainage area impervious cover
- ☐ Confirm volume computations
- ☑ Complete concept sketch
- ☐ Obtain existing stormwater practice as-builts
- ☐ Obtain site as-builts
- ☐ Obtain detailed topography
- ☐ Obtain utility mapping
- ☐ Confirm storm drain invert elevations
- ☐ Confirm soil types
- ☐ Other:_____

INITIAL FEASIBILITY AND CONSTRUCTION CONSIDERATIONS

SITE CANDIDATE FOR FURTHER INVESTIGATION:	☐ YES	☐ NO	☑ MAYBE
IS SITE CANDIDATE FOR EARLY ACTION PROJECT(S):	☐ YES	☑ NO	☐ MAYBE
IF NO, SITE CANDIDATE FOR OTHER RESTORATION PROJECT(S):	☐ YES	☐ NO	☐ MAYBE

IF YES, TYPE(S):_____

Unique Site ID: C106


655
650
PEA GRAVEL DIAPHRAGM
Tower Loop
BIORETENTION AREA
640
BIORETENTION
~62
OVERFLOW STRUCTURE
SWALE
CURB CUT DIVERSION
630
0
25
50 Feet
N
Site ID: C106
Storm structures
Stormwater Pipes
UCONN Water Pipes
UCONN Steam Pipes