North Branch Park River
Watershed Management Plan
Site-Specific Recommendations
Cost Worksheet

	Unit Cost	Unit	Quantity	Cost (2010$)	Design, and Planning Allowance	Cost	Total Cost	Order of Magnitude Cost Range -30%	50%	Lifespan (yrs)	Annual Cost Over Lifespan	O&M (% Cost)	O&M ($/yr)	Total Capitalized Cost/yr over lifespan	Source
Bloomfield Town Hall															
Bioretention in Traffic Island	$17.50	/ft2 (commercial/industrial area	2000	$35,000	55%	$19,000	$54,000	$38,000	$81,000	15	$4,520	8%	$360	$4,880	1
Bioretention Area West of Parking Lot	$17.50	/ft2 (commercial/industrial area	1320	$23,000	55%	$13,000	$36,000	$25,000	$54,000	15	$3,020	8%	$240	$3,260	1
Water Quality Swale	$12.50	/ft2 (commercial/industrial area	5400	$68,000	55%	$37,000	$105,000	$74,000	$158,000	30	$5,360	6%	$320	$5,680	2
							$195,000	$137,000	$293,000						
Hartford Seminary															
Bioretention Area Conversion	$8.40	/ft2 (developed area)	2650	$22,000	55%	$12,000	$34,000	$24,000	$51,000	15	$2,850	8%	$230	$3,080	2
Bioretention Area Conversion	$8.40	/ft2 (developed area)	1150	$10,000	55%	$6,000	$16,000	$11,000	$24,000	15	$1,340	8%	$110	$1,450	2
				$0		$0	$50,000	$35,000	$75,000						
Connecticut Historical Society				$0		$0									
Stormwater wetlands and grounds improvements	$7.00	/ft2 (developed area)	276225	$1,934,000	32%	$619,000	$2,553,000	$1,787,000	$3,830,000	30	$130,250	8%	$10,420	$140,670	
				$0		$0									
				$0		$0									
Laurel School				$0		$0									
Wet Detention Pond	$4.00	/ft3 treated	10,600	$42,000	32%	$13,000	$55,000	$39,000	$83,000	30	$2,810	6%	$170	$2,980	3
Tree planting on grassed area	$0.30	/ft^2	70,000	$21,000	32%	$7,000	$28,000	$20,000	$42,000	50	$1,090	0%	$0	$1,090	1
Reforestation of pavement	$1.75	/ ft2	8,200	$14,000	32%	$4,000	$18,000	$13,000	$27,000	50	$700	0%	$0	$700	1
Replace driveway	$3.00	/ft2	3,000	$9,000	32%	$3,000	$12,000	$8,000	$18,000	20	$810	0%	$0	$810	1
Transplant tree	$2,000.00	ea	1	$2,000	0%	$0	$2,000	$1,000	$3,000	50	$80	0%	$0	$80	1
							$115,000	$81,000	$173,000						
Filley Park*															
Parking Lot Swale	$12.50	/ft^2	2000	$25,000	32%	$8,000	$33,000	$23,000	$50,000	30	$1,680	8%	$130	$1,810	2
Stormwater basin	$4.00	/ft3 treated	50000	$200,000	32%	$64,000	$264,000	$185,000	$396,000	30	$13,470	8%	$1,080	$14,550	2
Sediment Trap	$20,000.00	ea.	1	$20,000	32%	$6,000	$26,000	$18,000	$39,000	30	$1,330	10%	$130	$1,460	5
Reconstruct or replace dam	$200,000.00	ea.	1	$200,000	32%	$64,000	$264,000	$185,000	$396,000	30	$13,470	0%	$0	$13,470	5
Dredging	$70.00	cubic yard	3,000	$210,000	32%	$67,000	$277,000	$194,000	$416,000	30	$14,130	0%	$0	$14,130	5
Riparian plantings	$10,000.00	acre	0.5	$5,000	32%	$2,000	$7,000	$5,000	$11,000	30	$360	6%	$20	$380	1
							$871,000	$610,000	$1,307,000						
University of Hartford Dam Removal*															
Replace dam with bridge	$1,500,000	ea.	1	$1,500,000	32%	$480,000	$1,980,000	$1,386,000	$2,970,000	50	$76,950	8%	$6,160	$83,110	5
Remove Sediment	$70	cubic yard	7,000	$490,000	32%	$157,000	$647,000	$453,000	$971,000	100	$20,480	0%	$0	$20,480	5
Riparian Plantings	$10,000.00	acre	2	$20,000	32%	$6,000	$26,000	$18,000	$39,000	100	$820	0%	$0	$820	1
Bank stabilization	$50	ft	1700	$85,000	32%	$27,000	$112,000	$78,000	$168,000	100	$3,540	0%	$0	$3,540	4
Greenway	$3	ft2	10,000	$30,000	32%	$10,000	$40,000	$28,000	$60,000	30	$2,040	6%	$120	$2,160	1

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							$2,805,000	$1,964,000	$4,208,000					
Lower NBPR Buffer Improvements														
Reconfigure Parking	$3	ft2	96,000	$288,000	32%	$92,000	$380,000	$266,000	$570,000	30	$19,390	0%	$0	$19,390	1
Reforestation of pavement	$1.75	ft2	150,000	$263,000	32%	$84,000	$347,000	$243,000	$521,000	100	$10,980	0%	$0	$10,980	1
Property easement/acquisition	$5	ft2	246,000	$1,230,000	5%	$62,000	$1,292,000	$904,000	$1,938,000	100	$40,890	0%	$0	$40,890	5
Wash Brook Erosion Repair														
Site #1														
Commericial property easement/acquisition	$0.00	ft2/undevelopable land	196,000	$0	5%	$0	$0	$0	$0	100	$0	0%	$0	$0	5
Residential easement	$15,000	residence	3	$45,000	5%	$2,000	$47,000	$33,000	$71,000	100	$1,490	0%	$0	$1,490	5
Gabion Wall	$300	l.f. @ 12 ft high	150	$45,000	32%	$14,000	$59,000	$41,000	$89,000	20	$3,970	8%	$320	$4,290	1
Excavation/backfill	$40	cy	100	$4,000	32%	$1,000	$5,000	$4,000	$8,000	20	$340	8%	$30	$370	1
Bank Stabilization	$50	ft	400	$20,000	32%	$6,000	$26,000	$18,000	$39,000	20	$1,750	8%	$140	$1,890	4
Stream Barbs	$4,000	ea.	9	$36,000	32%	$12,000	$48,000	$34,000	$72,000	20	$3,230	8%	$260	$3,490	4
Site #2				$0										
Bank Stabilization	$50	ft	340	$17,000	32%	$5,000	$22,000	$15,000	$33,000	20	$1,480	8%	$120	$1,600	4
Stream Barbs	$4,000	ea.	6	$24,000	32%	$8,000	$32,000	$22,000	$48,000	20	$2,150	8%	$170	$2,320	4
				$0			$239,000	$167,000	$359,000					
Woodland Drive Stormwater Basin				$0										
Stormwater Wetland	$21,000.00	acre treated	27	$567,000	32%	$181,000	$748,000	$524,000	$1,122,000	20	$50,280	8%	$4,020	$54,300	3

Note:
Rate of Inflation used = 4%
Interest (discount) rate used = 7%
*Projects are proposed for these locations already. Costs estimated in this table are for adding ecological and water quality elements to the assumed original purpose of the proposed projects.

Sources:
1. Derived by F&O based on R.S. Means
2. CWP data normalized using F&O derived cost
3. CWP Urban Subwatershed Restoration Manual 2 Appendix E
4. Derrick, David (1997). Harland Creek Bank Stabilization Demonstration Project. Land and Water Magazine, Sept/Oct 1997. Accessed at www.landandwater.com on July 7, 2010.
5. Estimate from Professional E