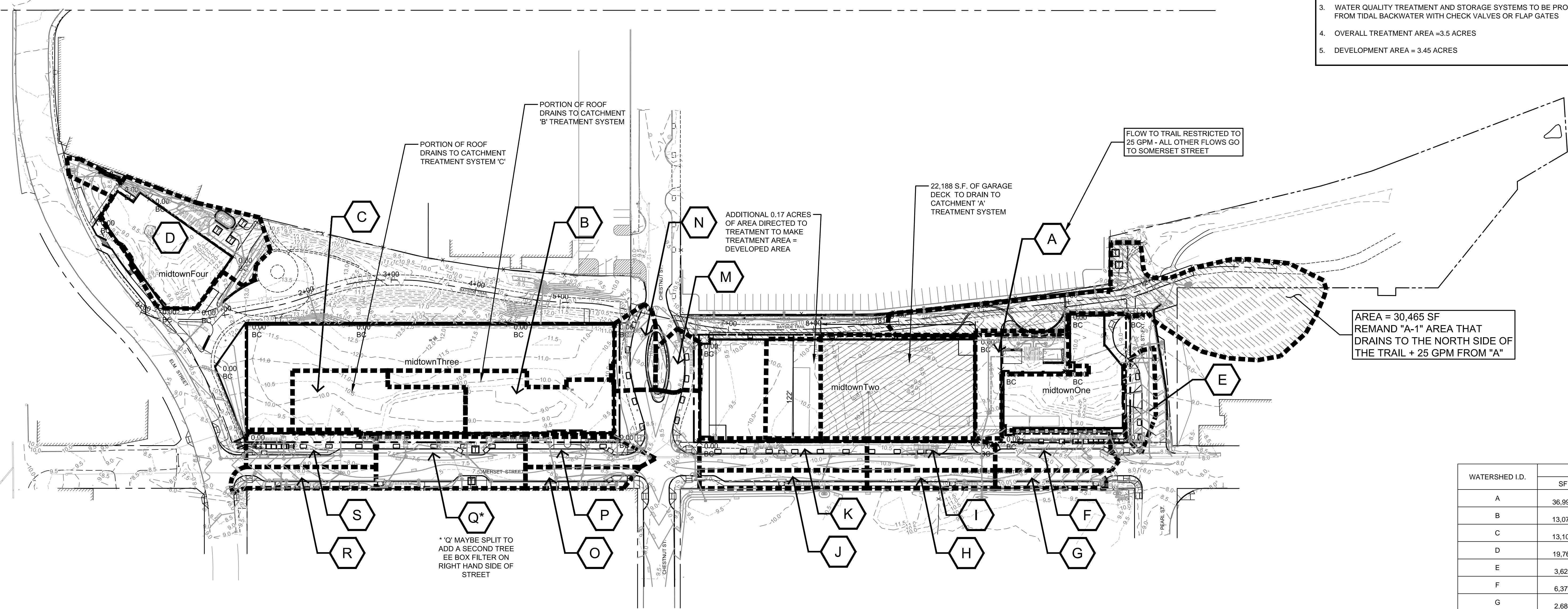


- NOTE:**
1. RUNOFF FROM AREA 'D' RECEIVES TREATMENT VIA STORMTREAT™ UNITS. THE REMAINDER OF THE AREAS IDENTIFIED ON THIS PLAN ARE TREATED BY A TREEBOX FILTER.
 2. THE AREAS SHOWN ARE DRAINAGE AREAS THAT RECEIVE WATER QUALITY TREATMENT. NON-TREATED AREAS (ROOFTOPS) WILL CONNECT TO SOMERSET STREET, AND CHESTNUT STREET.
 3. WATER QUALITY TREATMENT AND STORAGE SYSTEMS TO BE PROTECTED FROM TIDAL BACKWATER WITH CHECK VALVES OR FLAP GATES
 4. OVERALL TREATMENT AREA = 3.5 ACRES
 5. DEVELOPMENT AREA = 3.45 ACRES



WATERSHED I.D.	AREA	
	SF	AC.
A	36,998	0.85
B	13,078	0.30
C	13,103	0.30
D	19,761	0.45
E	3,624	0.08
F	6,373	0.15
G	2,688	0.06
H	3,184	0.07
I	5,497	0.13
J	4,160	0.10
K	7,318	0.17
L	5,295	0.12
M	3,292	0.08
N	4,426	0.10
O	3,115	0.07
P	4,700	0.11
Q	5,295	0.12
R	4,173	0.10
S	6,447	0.15
TOTAL	152,527	3.50

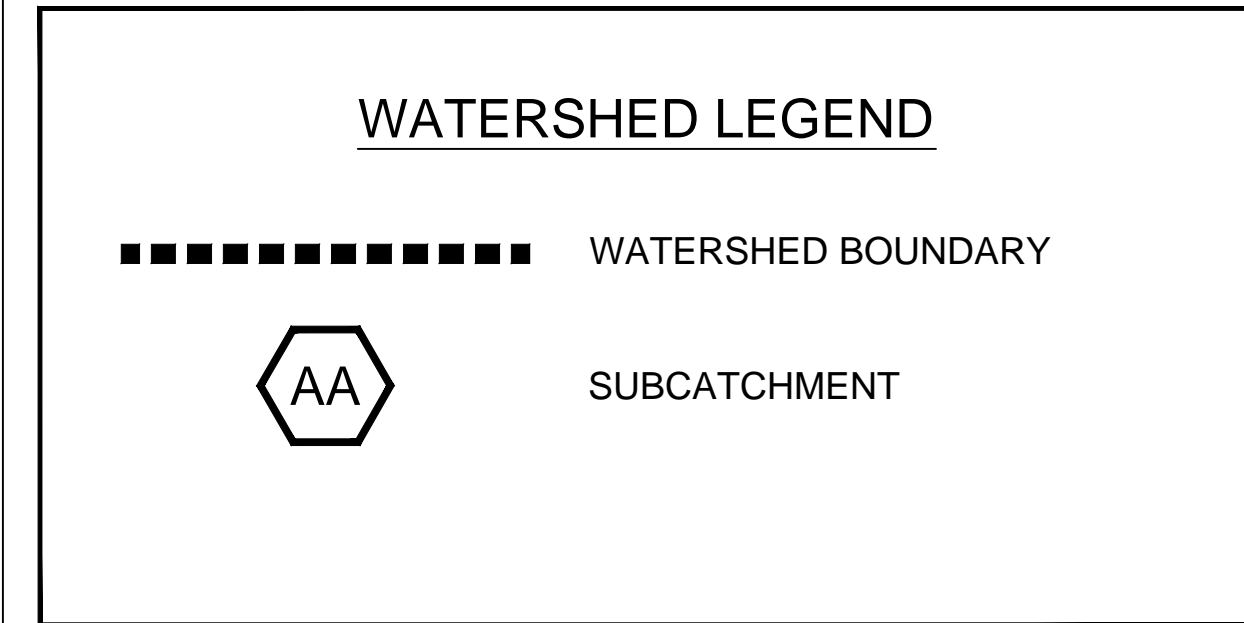
Midtown Water Quality Summary, Isolator Row Sizing and Summary of Peak Discharges

System	Tributary Area (SF)	Tributary Area (acres)	Treatment Approach	Required Filterra Sizing (sf)/Storm Treats (ea)	Filterra Size (sf)/Storm Treats Provided (ea)	Water Quality Volume (CF)	1 Yr. Peak Flow (CFS)	# Chambers (SC740) Required	Storage Volume Required (CF)*	"Brentwood Tanks Required (See Plan for Dimension)"	"Brentwood Tanks Provided (1.5' x 3' x 2)"	"Peak Flow 2 Year Storm (CFS)"	"Peak Flow 25 Year Storm (CFS)"
A	36,988	0.85	Subsurface Filterra Media	12'x8'	12'x15'	3,082	2	10	682	76	84	2.32	4.50
B	13,078	0.30	Boxless Filterra	4'x6'	4'x6'	1,090	0.71	4	273	31	30*	0.82	1.59
C	13,103	0.30	Boxless Filterra	4'x6'	4'x6'	1,092	0.71	4	273	31	30*	0.82	1.59
D	19,761	0.45	StormTreat Units	2.00	2.00	1,647	1.07	6	409	126	126	1.24	2.40
E	3,624	0.08	Filterra	4'x6'	4'x6'	302	0.2	1	68	8	16	0.23	0.44
F	6,373	0.15	Filterra	4'x6'	4'x6'	531	0.34	2	136	16	16	0.40	0.78
G	2,688	0.06	Filterra	4'x6'	4'x6'	224	0.15	1	68	8	8	0.17	0.33
H	3,184	0.07	Filterra	4'x6'	4'x6'	265	0.17	1	68	8	8	0.20	0.39
I	5,497	0.13	Filterra	4'x6'	4'x6'	458	0.3	2	136	16	16	0.34	0.67
J	4,160	0.10	Filterra	4'x6'	4'x6'	347	0.22	2	136	16	16	0.26	0.51
K	7,318	0.17	Filterra	4'x6'	4'x6'	610	0.4	2	136	16	16	0.46	0.89
L	5,295	0.12	Filterra	4'x6'	4'x6'	441	0.29	2	136	16	16	0.33	0.64
M	3,292	0.08	Filterra	4'x6'	4'x6'	274	0.18	1	68	8	16	0.21	0.40
N	4,426	0.10	Filterra	4'x6'	4'x6'	369	0.24	2	136	16	16	0.28	0.54
O	3,115	0.07	Filterra	4'x6'	4'x6'	260	0.22	2	136	16	16	0.20	0.38
P	4,700	0.11	Filterra	4'x6'	4'x6'	392	0.25	2	136	16	16	0.29	0.57
Q	5,295	0.12	Filterra	4'x6'	4'x6'	441	0.29	2	136	16	16	0.33	0.64
R	4,173	0.10	Filterra	4'x6'	4'x6'	348	0.23	2	136	16	16	0.26	0.51
S	6,447	0.15	Filterra	4'x6'	4'x6'	537	0.35	2	136	16	16	0.40	0.78

Notes:

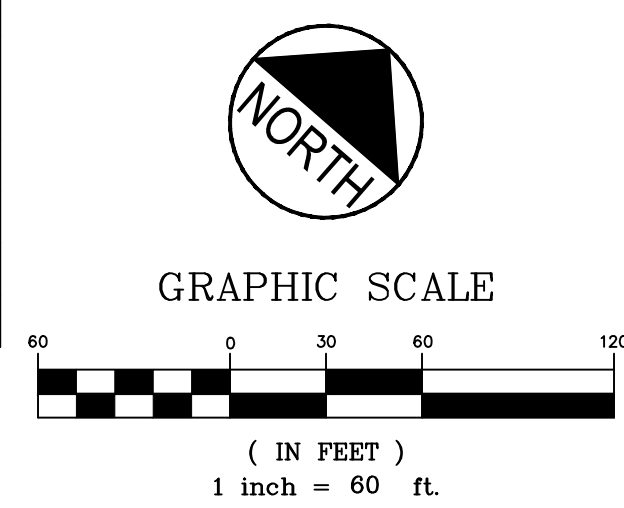
The configuration of the post development drainage results in the following:

- The runoff tributary to the Elm Street System is decreased slightly. (The tributary area from the site decreases from 1.96 to 1.80 acres.) This is favorable since this system has much lower capacity than the Somerset Street system;
- The runoff tributary to the Chestnut Street System is decreased slightly. (The tributary area from the site decreases from 0.30 acres to 0.29 acres.) This is favorable since this system has much lower capacity than the Somerset Street system;
- The runoff tributary to the Somerset Storm Drain (constructed in 2003 to include service to the Federated land) increases by about 0.27 acres; and
- Refer to the Stormwater Management Report for an explanation of why the peak 2 yr. flow (cfs) is always 2.73 times the area (acres) and the 25 year flow (cfs) is 5.30 times the area.
- midtownOne and MidtownTwo roof area which will be untreated and discharged to the Somerset Street drainage system is 0.74 acres generating peak flows of 2.03 and 3.96 cfs for the 2 and 25 year storm events.
- midtownThree roof area which will be untreated and discharged to the Somerset Street drainage system is 0.60 acres generating peak flows of 1.64 and 3.18 cfs for the 2 and 25 year storm events.
- Review of the flows tabulated above show the conveyance pipe requirements will not exceed 12 inches except if the roof drains from the building are combined to a single outlet. In this case, the roof drain stub would need to be increased to 15 to 18 inch in size. Roof drain sizes will be confirmed after the mechanical drawings have been prepared.
- High flows from 'A' overflow to '18' storm drain in Somerset Street (only low flows drain to trail).



FOR NOVEMBER 14, 2014 SUBMISSION - SUBJECT TO ONGOING FAY, SPOFFORD & THORNDIKE REVIEW

PRELIMINARY - NOT FOR CONSTRUCTION



*Based on StormTech 740 chambers storage capacity of 68.2 CF per chamber
 *Additional Storage is provided in inspection manholes.
 Systems A & D have 18" storm drain downstream of roof drain connection.

		PROJECT midtown PORTLAND, MAINE	FAY, SPOFFORD & THORNDIKE ENGINEERS • PLANNERS • SCIENTISTS 778 MAIN ST., SUITE 8, SOUTH PORTLAND, ME 04106 FORMERLY DELUCA-HOFFMAN ASSOCIATES
SHEET TITLE POSTDEVELOPMENT WATERSHED MAP		DRAWN: LA DESIGNED: WGH/BEK CHECKED: WGH/SRB FILE NAME: 3062-WSHED-POST	DATE: OCTOBER 2014 SCALE: 1"=60' JOB NO. SP-M037B
CLIENT THE FEDERATED COMPANIES		SHEET C-14.1	