	DRAINAGE SCHEDULE FOR "A"			SYSTEM B DRAINAGE SCHEDULE							
	Description	Rim or	Invert In Flev.	Invert Out Fley.	Special Notes		Description	Rim or	Invert In Elev.	Invert Out Elev.	Special Notes
		Surface	E 70 (Droposod			Building	, Deaf Drain	Surface		0.28 (12" B_2)	•
Δ-0	Replace Existing Catch Basin	11 37	5.70 (Proposed 12" A-1) 6.70 (A-20)	3.05 (A-21)		Building B-0	Special Inlet for Depressed Filterra®	12.00 11.55	9.15 (12" B-2)	9.38 (12 B-2) 9.15 (12" B-1)	
A-1	4'-0" Dia. Manhole	11.45	6.28 (12" A-2) 6.00 (12" A-17)	5.90 (18" A-0)	Midtown Roof Drains Connect at Elevation 6.28.	R_1	1'-0" x 6'-0" Filterra® Tree Box Filter	9.50	9.15 (12" B-0)	6.00 (4" B-3)	This is a depressed unit; the grating set at Elev. 11.30 - 11.50 (see special details).
					This manhole will have a weir wall. The top of the wall shall be set at 9.94. The discharge from the underground storage units	D-1		11.88	9.28 (12" Roof)	9.18 (12" B-0) 6.00 (12"-B-3)	Flow to be diverted to Filterra [®] Unit using a weir set at Elevatio 9.5. At elevation 9.5 flow will
A-2	4'-0" Dia. Manhole	11.90	6.60 (12" A-3)	6.55 (12" A-1)	will connect downstream of the weir.	B-2	Roof Drain Control Manhole				storage tanks.
			6.74 (Bottom		Pipes from A-6 comes in at bottom of chamber elevation	B-3	4'-0" sq. Inspection/Maintenance Manhole	11.86	5.90 (12" B-2) 5.90 (4" B-1)	5.90 (12" Storage)	To Isolator Row Storage Tanks set at Elev. 5.90
A-3	Underground Storage	11.74 to 11.86	Elev.) 9.74 (Top Elev.)	(A-13) 6.74 (A-2)	6.74; Must have 24" cover for structural reasons.	B-4	4'-0" sq. Inspection/Maintenance Manhole	11.86	5.90 (12" Storage)	5.90 (12" B-5)	From Storage
A-4	Overflow Catch Basin	11.25		7.14 (12")					5.90 (12" B-4)	F (0 (12" O 7)	7.90; underdrain inverts shall be set at Elev. 5.60; Install 4" PVC
A-5	Overflow Catch Basin	11.25		7.18 (12") 7.09 (to A-3)				11.86	5.60 (4" UD Storage)	5.60 (12" 0-7)	backwater valve on 4" underdrain discharge from
A-6	5'-0" Dia. Outlet Control Manhole	11.52	8.26 (18") 8.26 (18" A-6)	(18")	Weir wall set at 9.32	B-5	4' x 6' sq. Overflow Manhole	Pipe	Length	Slope	Isolator Row.
	Surge Storage		8.32 (Bottom Elev.)		Must have 24" cover for	Duilding	New Storm Drain		(ft)	(ft/ft)	Grade Difference (ft)
A-7	(not included as part of WQ storage)	11.32 to 11.60	9.32 (Top Elev.)	8.32 (18" A-6)	structural reasons	Building B-2 to B-	B-2 to B-0		6	0.0250	0.10
A-8		10.40	8.82 8.32 (Bottom	0.02 (12 A-7)		B-2 to B-3		12	23	0.0043	0.10
A-9	Surge Storage (not included as part of WQ storage)	11.20 to 11.50	Elev.) 9.32 (Top Elev.)	8.32 (18" A-6)	Must have 24" cover for structural reasons	B-1 to B- B-4 to B-	B-1 to B-3 B-4 to B-5		28	0.0050	0.10
A-10	Flow Distribution Manifold	10.50	8.20	8.82 (12" A-9)							0.00 (4" underdrain set 0.3'
A-11	Vortex Based Pretreatment	11.50	8.98 (A-12)	8.93 (12" A-9)	Down Stream Defender (or Equal) Garage deck drainage receiving	Storage	to B-5	6	15	0.0000	elevation 5.60)
A-12	Catch Basin	11.48	9.15 (Roof) 9.15 (A-13)	9.05 (12" A-11)	water quality treatment connects to this manhole.	B-5 to O	7	12	31	0.0050	0.20
A 12	Catch Basin and Overflow Manhola	11 55	6 58 (12" Δ-3)	9.47 (A12)	Overflow from A-3 connects to	Notes:	A 6" underdrain shall be installed below the	underground st	orage and connecte	ed to OCS B-5 on th	e downstream side of the wier at
A-13 A-14	Catch Basin and Overnow Manhole	9.34	0.38 (12 A-3)	4.53 (12" A-21)		1	Elev. 5.60. The prepared subgrade at the bottom of the	e underground s	torage unit is set at	Elev. 5.90; the top	is set at Elev. 7.90.
A-15	Catch Basin	8.60		4.76 (12" A-21)		3	The Filterra [®] underdrain connects directly t	to the underground storage system.			
A-16 A-17	Catch Basin 4' dia. Manhole Along Trail (See Dwg. 8.2A)	8.60		4.80 (12 A-21) 6.77 (12" A-1)							
A 10	2' Square Catch Basin Along Trail (See Dwg.	11.12	7.0 (6" 110)	6 80 (12" TEE)							
A-18	2' Square Catch Basin Along Trail (See Dwg.	11.12	7.0 (0 00)								
A-19	8.2A) 2' Square Catch Basin Along Trail (See Dwg	10.66	7.0 (6" UD)	6.60 (12" TEE)			Description	SYSTEM C DRA Rim or			Cuprical Nichon
A-20	8.2A)	10.71	7.0 (6" UD)	6.79 (12" A-0)		Building	Boof Drain	Surface	Invert in Elev.	9 38 (12" C-2)	special notes
			2.92 (18")(A-0) 4.63 (12")(A-15) 4.38 (12")(A-14)	2.82 (18" City		C-0	Special Inlet for Depressed Filterra®	11.55	8.97 (12" C-2)	8.97 (12" C-1)	This is a depressed unit: the
A-21	Replace Existing Catch Basin	10.50 Pipe	4.57 (12")(A-16)	System) Slope		C 1	1' 0" y 6' 0" Eiltorra® Trop Boy Eiltor	0.80	8 97 (12" C-0)	6 30 (4" C-3)	grating set at Elev. 11.80 (see
	New Storm Drain	Diameter (in.)	(ft)	(ft/ft)	Grade Difference (ft)			9.80	0.57 (12 0 0)	0.50 (4 C 5)	Flow to be diverted to Filterra®
A-0 fro A-2 to	om Existing Catch Basin to A-1 to A-0 A-1	12 12	40 47	0.0050	0.20				9 28 (12" Roof	9 18 (12" C-0)	Unit using a weir set at Elevation 9.5. At elevation 9.5 flow will overtop weir and be diverted to
A-3 to	A-2	12	27	0.0050	0.14	C-2	Roof Drain Control Manhole	11.88	Drain)	6.40 (12" C-3)	storage tanks.
A-4 to	A-3 A-3	12	14	0.0240	0.40	C-3	4'-0" sq. Inspection/Maintenance Manhole	11.88	6.30 (12" C-2) 6.30 (4" C-1)	6.30 (12" Storage)	To Isolator Row Storage Tanks set at Elev. 6.30.
A-6 to	A-3	18	6	0.0580	0.35	C-4	4'-0" sq. Overflow Manhole	11.88	6.30 (12" Storage)	6.30 (12" C-5)	
A-7 to	A-6	18	14	0.0000	0.00						Overflow weir shall be set at Elev. 8.30; underdrain inverts
A-8 to	A-7 A-6	18	12	0.0000	0.00			11.70	6.30 (12" C-4) 5.80 (6" Storage)	5.70 (12" L6=C6)	shall be set at Elev. 5.80; Install 4" PVC backwater valve on 4"
A-10 to	o A-9	6	Varies	0.0000	0.00	C-5	4' x 6' sq. Overflow Manhole				underdrain discharge from Filterra [®] .
A-11 to	o A-9 o A-11	18	5	0.0100	0.05		New 4'-0" dia. Manhole on Existing Storm Drain Sta. 4+60: 11.00' Left (See Schedule	11.05	5.62 (12" C-5) 5 10 (L-5)	3 10+/- (ex)	
A-13 to	o A-12	12	81	0.0050	0.41	C-6	Q)		3.10+/- (ex)		
A-13 to	0 H-5	18	18	0.0150	0.38		UNDERGROUND STORAGE	Pipe	Length	Slope	
A-15 to	o A-21	12	47	0.0050	0.24		New Storm Drain	Diameter (in.)	(fť)	(ft/ft)	Grade Difference (ft)
A-17 to	o A-1	12	164	0.0030	0.49	G-2 to C-	0	12	5	0.0200	0.10
A-20 to	o A-0 o A-21	12	18	0.0050	0.09	C-2 to C-	3	12	4	0.0140	0.10
A-18 to	o TEE	12	1	0.0050	0.15	C-0 to C-	1	12	0	0.0000	0.00
A-19 to	o TEE	12	10	0.0050	0.15	C-1 to St	orage	12	8	0.0000	storage; pipe is installed level)
	A test pit on the outlet pipes of all new cor	nnections to veri	fy the invert is lower	than the proposed	elevation of the new incoming	C-4 to C-	5	12	2	0.0000	0.00 0.00 (6" underdrain set 0.5'
1	Ine. Invert Elevations of existing storm drains ar	e based upon a p	plan prepared for the	e City of Portland b	y SGC survey dated 10/30/08.	Storage to C-5		6	2	0.0000	below bottom of chamber elevation 5 80)
3	The underground storage tanks will have a top of prepared subgrade Elev. of 6.74 and a top of storage Elev. of 9.74.		C-5 to C-6 12 8 0.0050 0.08					0.08			
4 5	Refer to Details on Drawing C-7.8 for boxles The 18" pipe discharge line from the Federa avoid tidal backwater into the system	ated Phase 1 are	er. a will require a back	flow preventer inst	alled inside of the manhole to	Notes: A 6" underdrain shall be installed below the underground storage and connected to OCS C-5 on the downstream side of the wier at Stars 5.00					
6	The storm drain for A-16 may be teed into a	drainage downst	ream of A-10 to avo	id the adverse angl	e for pipes entering A-14.	2 The 4" Filterra [®] underdrain is to be installed level.					
7	ne pottom 6" of the 12" high surge storage pool).	e is filled with cr	usned stone. Norma	ai water level eleva	tion is 8.82 (i.e. stone is below	3 The prepare subgrade at the bottom of the underground storage unit is set at Elev. 6.30; the top is set at Elev. 8.30.					
8	Drainage system requires scupper inlets or to select inlet type from Options on Dwg C	field inlets from -7.12.	abutting property lin	ne at A-18, A-19, an	nd A-20. Abutting property owner						

	Description	Rim	Inlet Apron at Gutter	Invert In Elev.	Invert Out Elev.	
lm St	reet - Existing Catch Basin			2.61 (18" D-0)	2.56 (18" City System)	
0-0	Replace Existing 4'-0" Dia. Catch Basin	11.40		2.90 (18" D-1)	2.85 (18" Elm Street Catch Basin)	
0-1	6'-0" Dia. Manhole	11.48		3.21 (4" Storm Treats) 3.21 (18" D-2)	3.11 (18" D-0)	
)-2	4'-0" Outlet Control Manhole	11.50		3.90 (18" D-3)	3.80 (18" D-1)	
)-3	4' x 6' Overflow Manhole (twin pipes)	10.05 to 10.55		3.90 (18" Storage)	3.90 (4")(Storm Treats) 4.19 (18") 3.90 (D-2)	
)-4	5'-0" Splitter Manhole	8.07		4.55 (18" D-5)	4.45 (18" Storage)	
)-5	Vortex Based Pretreatment	8.60		4.69 (D-6)	4.59 (D-4)	
)-6	4'-0" Dia. Catch Basin	8.10		5.36(12"D-7A)	5.26 (18" D-5)	
)-7A	4'-0" Dia. Manhole	10.90		5.75 (12" D-8)	5.65 (D-6)	
0-8	4'-0" Dia. Catch Basin	9.25		6.1 (12" Field Inlet)	6.0 (12" D-7)	
	STORMTREAT					
	New Storm Drain	Pipe Diameter (in.)	Length (ft)	Slope (ft/ft)	Grade Difference (ft)	
lm St	reet - Existing Catch Basin	18	76	0.0032	0.243	
)-1 to	D-0	18	55	0.0038	0.209	
)-2 to	D-1	18	47	0.0120	0.564	
)-3 to	D-2	18	10	0.0000	0.000	
)-4 to	D-3	15	6 AND 9	0.0100	#VALUE!	
	D-4	18	8	0.0067	0.054	
)-5 to		10	19	0.0300	0.570	
)-5 to)-6 to	D-5	18				
)-5 to)-6 to)-7 to	D-5 D-6	18	26	0.0050	0.130	
)-5 to)-6 to)-7 to loof t	D-5 D-6 o D-6	18 12 15	26 11	0.0050 0.0100	0.130 0.110	
0-5 to 0-6 to 0-7 to 0-7 to 0-9 to	D-5 D-6 o D-6 D-7	18 12 15 12	26 11 25	0.0050 0.0100 0.0100	0.130 0.110 0.250	
0-5 to 0-6 to 0-7 to 0-7 to 0-9 to ield I	D-5 D-6 o D-6 D-7 nlet to D-9	18 12 15 12 12 12	26 11 25 5	0.0050 0.0100 0.0100 0.4800	0.130 0.110 0.250 2.400	

NOTES:					
1	A test pit on the elevation of the				
2	Invert elevations dated 10/30/08.				
3	The underground of 6.90 and a min				
4	The bottom of th incoming pipe w				
5	The 15 inch pipe to avoid tidal bac				
6	Plants for the Sto				
7	Proposed sewer Sewer invert 4.8				

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AN	IY PIP				

 3
 04.25.16
 FINAL SITE PLANS WITH CONDITIONS OF APPROVAL

 2
 02.17.16
 FINAL SITE PLANS WITH CONDITIONS OF APPROVAL

 1
 11.14.14
 FINAL LEVEL III SUBMISSION TO CITY OF PORTLAND

 REV
 DATE
 DESCRIPTION

REVISIONS

e outlet pipe for the existing catch basin is required to verify the invert is lower than the proposed e new line.

ns of existing storm drains are based upon a plan prepared for the City of Portland by SGC survey

nd storage tanks will have a top of prepared subgrade elevation of 3.90, a top of storage elevation ninimum surface elevation above the storage units of 9.10 (to provide 24 inches of cover).

the StormTreat units is to be set at 2.98 with a top of lip elevation of 6.98 at the surface. The vill be set at elevation 3.90 with the outlet elevation of 3.48.

e from the Federated Phase 3 area will require a backflow preventer installed inside of the manhole ackwater into the system.

cormTreat[™] units should have moderate tolerance for saline water.

r for Midtown 4 crosses the storm drain between the existing catch basin and catch basin D-0. 80+/-.

OPOSED STORM DRAIN SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF PORTLAND TECHNICAL ARDS USING ONE OF THE FOLLOWING PIPE MATERIALS:

NFORCED CONCRETE PIPE (RCP) WITH A MINIMUM STRENGTH OF CLASS III CRING TYPE SEWER PIPE (SDR 35 OR EQUIVALENT, MINIMUM PS-46 RATING .C. RING TYPE SEWER PIPE MEETING ASTM F 789 OR EQUAL TO SDR 35 CTILE IRON PIPE (DIP) S N-12 HP TRIPLE-WALL PIPE MEETING A MINIMUM PS-46

S SANITITE HP MEETING A MINIMUM PS-46

INTS SHALL BE WATERTIGHT (SILT TIGHT JOINTS ARE NOT PERMITTED. CONTRACTORS SHALL REFER TO THE ICAL SPECIFICATIONS FOR THE PROJECT FOR ADDITIONAL INFORMATION INCLUDING ANY SPECIAL PIPE CLASSES.

PELINE WITH LESS THAN 2 FEET OF COVER SHALL BE DUCTILE IRON PIPE

	TE OF MA STEPHEN R BUSHEW No. 7429	PROJECT midtown PORTLAND, MAINE	FAY, SPOFFORD & THORNDIKE ENGINEERS · PLANNERS · SCIENTISTS 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106						
		SHEET TITLE							
		PROPOSED STORM DRAIN SCHEDULES	DRAWN:	LA	DATE:	OCTOBER 2014			
			DESIGNED:	BEK	SCALE:	N.T.S.			
-		CLIENT	CHECKED:	SRB	JOB NO.	195350127			
			FILE NAME:	3062-GRADE SC	62-GRADE SCHED				
_	P.E. STEPHEN R. BUSHEY	FEDEQ DV001, LLC	SHEET	$C_{-3}10$					
	LIC. # 7429		011221	0-3.10					