







Define Media Mix Support information:

MIX:	TN Removal %	TP Removal %	Water storage fraction
B&G ECT	55	65	0.25
B&G OTE	45	45	0.25
B&G ECT3	45	45	0.25
SAT	30	45	0.25
B&G CTS12	60	90	0.25
B&G CTS24	75	95	0.25
UDM1*			
UDM2*			
UDM3*			
UDM4*			

* User Defined Media Mix

DESCRIPTION OF MEDIA		PROJECTED TREATMENT PERFORMANCE *			TYPICAL OPERATING LIMITING FILTRATION RATE (in/hr)
		TSS REMOVAL EFFICIENCY	TN REMOVAL EFFICIENCY	TP REMOVAL** EFFICIENCY	
Media and Typical Location in BMP Treatment Train	MATERIAL				
 B&G ECT ^(ref A) A first BMP, ex. Up-Flow Filter in Baffle box and a constructed wetland [†] (USER DEFINED BMP)	Expanded Clay ² Tire Chips ¹	70%	55%	65%	96 in/hr
 B&G OTE ^(ref A,B) Up-flow Filter at Wet Pond or Dry Basin Outflow (FILTRATION)	Organics ⁸ Tire Chips ¹ Expanded Clay ⁴	60%	45%	45%	96 in/hr
 B&G ECT3 ^(ref C) After Wet Detention using Up-flow Filter	Expanded Clay ⁴ Tire Chip ¹	60%	45%	45%	96 in/hr
 SAT ^(ref D) A first BMP, as a Down-flow Filter (FILTRATION)	Sand ³	85%	30%	45%	2 in/hr
 B&G CTS ^(ref E,F) Down-flow Filters 12" depth*** at wet pond or dry basin pervious pave, tree well, rain garden, swale, and strips	Clay ⁶ Tire Crumb ⁵ Sand ⁷ & Topsoil ⁹	90%	60%	90%	1.0 in/hr
 B&G CTS ^(ref E,F) Down-flow Filters 24" depth*** at wet pond or dry basin pervious pave, tree well, rain garden, swale, and strips	Clay ⁶ Tire Crumb ⁵ Sand ⁷ & Topsoil ⁹	95%	75%	95%	1.0 in/hr
<p>NOTES [†]No generally accepted BMP at this time. Also can be used as a downstream BMP but the removal must be lowered.</p> <p>*All Effectiveness Estimates to nearest 5%; **Phosphorus removal has limited life expectancy; ***24" depth has TN and TP removals of 75 & 95%</p> <p>acronyms B&G - BOLD & GOLD; SAT - Sand Austin Tx; ECT- Expanded Clay and Tire; ECT3 Expanded Clay and Tire in Treatment Train</p> <p>¹ Tire Chip 3/8" and no measurable metal content (approximate dry density = 730 lbs/CY)</p> <p>² Expanded Clay 5/8 and 3/8 blend (approximate dry density = 950 lbs/CY)</p> <p>³ Sand ASTM C-33 with no more than 3% passing # 200 sieve (approximate dry density = 2200 lbs/CY)</p> <p>⁴ Expanded Clay 3/8 in blend (approximate density = 950 lbs/CY)</p> <p>⁵ Tire Crumb 1-5 mm and no measurable metal content (approximate density = 730 lbs/CY)</p> <p>⁶ Medium Plasticity typically light colored Clay (approximate density = 2500 lbs/CY)</p> <p>⁷ Sand with less than 5% passing #200 sieve (approximate density = 2200 lbs/CY)</p> <p>⁸ Organics: Either compost (approximate density of 700 lbs/CY) Class 1A Compost or wood chips (sawdust) without pesticides</p> <p>⁹ Local top soil is used over CTS media in dry basins, gardens, swales and strips, is free of roots & debris but is not used in other BMPs.</p> <p>A - Demonstration Bio Media for Ultra-urban Stormwater Treatment, Wanielista, et.al. FDOT Project BDK78 977-19, 2014</p> <p>B - Nutrient Reduction in a Stormwater Pond Discharge in Florida, Ryan, et al, Water Air Soil Pollution, 2010</p> <p>C - Up-Flow Filtration for Wet Detention Ponds, Wanielista and Flint, Florida Stormwater Association, June 12, 2014.</p> <p>D - City of Austin Environmental Criteria Manual, Section 1.6.5, Texas, 2012</p> <p>E - Nitrogen Transport and Transformation in Retention Basins, Marion Co, FL, Wanielista, et al, State DEP, 2011</p> <p>F - Improving Nitrogen Efficiencies in Dry Ponds, Williams and Wanielista, Florida Stormwater Association, June 18 2015</p>					