

**Draft Table for Media Component Specifications**

<b>Potential Specification Metrics, Methods and Numeric Ranges.</b>			
<b>Media Component</b>	<b>Specification Metric</b>	<b>Analytical Method</b>	<b>Numeric Range</b>
Sand			
	Gradation and Coefficient of Uniformity	ASTM D422 (may change to AASHTO T27) or vendor sieve analysis	See Table 1
	Synthetic Precipitation Leaching Protocol	EPA Method 1312	TP: max 0.1 mg/L. Ortho-P: max 0.1 mg/L. Diss Cu: max 8 µg/L. NO3-NO2: max 0.1 mg/L
Coir			
	Electrical conductivity	TMECC 04.10-A	<4 mmhos/cm
	Cation exchange capacity	EPA 9081 (sodium)	Not known
	Anion exchange capacity	EPA 9081-Modified (nitrate)	Not known
	Synthetic Precipitation Leaching Protocol	EPA Method 1312	TP: max 0.1 mg/L. Ortho-P: max 0.1 mg/L. Diss Cu: max 8 µg/L. NO3-NO2: max 0.1 mg/L
High carbon wood ash (biochar)			
	Cation exchange capacity	EPA 9081 (sodium)	Not known
	Maximum passing 100 sieve	Sieve analysis	10 percent
	Polycyclic aromatic hydrocarbons	EPA 8270D	Not known
	Synthetic Precipitation Leaching Protocol	EPA Method 1312	TP: max 1.2 mg/L. Ortho-P: max 1.2 mg/L. Diss Cu: max 5 µg/L. NO3-NO2: max 0.1 mg/L
Iron aggregate			
	Gradation	ASTM D422 (may change to AASHTO T27) or vendor sieve analysis	See Table 2
	Iron content	Not available	80-97 percent by weight
	Cation exchange capacity	EPA 9081 (sodium)	Not known
	Anion exchange capacity	EPA 9081-Modified (nitrate)	Not known
	Synthetic Precipitation Leaching Protocol	EPA Method 1312	TP: max 0.05 mg/L. Ortho-P: max 0.05 mg/L. Diss Cu: max 0.01 µg/L. NO3-NO2: max 0.05 mg/L
Activated Alumina			
	Alumina (Al <sub>2</sub> O <sub>3</sub> ) content	Vendor analysis	Minimum 92 percent
	Bulk density	Vendor analysis	Minimum 760 Kg/m <sup>3</sup>
	Gradation	ASTM D422 (may change to AASHTO T27) and vendor sieve analysis	0.5-1.5 mm
	Surface area	Vendor analysis	Minimum 300 m <sup>2</sup> /g
	Cation exchange capacity	EPA 9081 (sodium)	Not known
	Anion exchange capacity	EPA 9081-Modified (nitrate)	Not known
	Synthetic Precipitation Leaching Protocol	EPA Method 1312	TP: max 0.05 mg/L. Ortho-P: max 0.05 mg/L. Diss Cu: max 0.01 µg/L. Diss Al: not known. NO3-NO2: max 1.5 mg/L

<b>Table 1. BSM Sand Gradation</b>			
<b>Particle Size (µm)</b>	<b>Sieve</b>	<b>Minimum (percent passing)</b>	<b>Maximum (percent passing)</b>
9,510	3/8	100	100
6,350	1/4		
4,760	4	95	100
2,380	8	68	86
2,000	10		
1,680	12		
1,410	14		
1,190	16	47	65
1,000	18		
841	20		
707	25		
595	30	27	42
500	35		
425	40		
354	45		
297	50	9	20
250	60		
177	80		
149	100	0	7
105	140		
88	170		
74	200	0	2.5

Follows WSDOT spec 9-03.1(2)B.

Cu = 4 (minimum).

Gradation is slightly coarser and more permeable than the existing 60/40 sand spec.

**Table 2. Iron Aggregate Gradation**

<b>Particle Size (µm)</b>	<b>Sieve</b>	<b>Minimum (percent passing)</b>	<b>Maximum (percent passing)</b>
9,510	3/8		
6,350	1/4		
4,760	4	100	100
2,380	8	95	100
2,000	10		
1,680	12		
1,410	14		
1,190	16	75	90
1,000	18		
841	20		
707	25		
595	30	25	45
500	35		
425	40		
354	45		
297	50	0	10
250	60		
177	80		
149	100	0	5
105	140		
88	170		
74	200		