



**COG MAJOR WWTPs (>=/> 2 MGD)
ENR/SOA IMPLEMENTATION SCHEDULE, DMR FLOWS AND
COMPARISON OF FLOW PROJECTION-METHODS (ROUND 9.0) (3/9/18)**

COG Region Major (>=/>2 mgd) WWTPs Summary					(as of 3/9/18)					
# of WWTPs	Major WWTPs (alpha. order by state)	STATE	Design Capacity (MGD)	ENR/SOA Implementation Schedule (as of 12/6/2016)	Annual Average Flows (MGD)					REQUEST
					DMR Flows ¹		Projected Flows			Please Verify #'s okay, OR make edits (in red font); add Comments; and ID Name & Contact Info.
					2009	2016	2025 COG RWFFM Method (Rd 9.0) ²	2025 CBP Draft Method ³	2045 COG RWFFM Method (Rd 9.0) ²	
1	Blue Plains ⁴	DC	370	2018	296.55	275.3	321.79	298.74	364.49	
2	Ballenger Creek	MD	6	2014	5.11	6.84	5.84	6.32	6.8	
3	Bowie	MD	3.3	2011	2.01	1.54	2.26	1.9	2..63	
4	Fort Detrick	MD	2	2011	0.67	0.85	0.73	0.91	0.81	
5	Frederick	MD	8	2017	6.2	6.42	8.18	6.38	8.89	
6	Mattawoman	MD	20	2007	10.97	9.88	13.18	11.09	13.33	
7	Parkway	MD	7.5	2013	6.27	6.4	6.75	6.86	6.86	
8	Piscataway	MD	30	2012	22.41	24.86	23.3	24.77	24.96	
9	Seneca Creek	MD	26	2017	15.56	14.42	19.4	15.85	21.94	
10	Western Branch	MD	30	2017	20.02	19.14	23.3	20.88	26.11	
11	Alexandria	VA	54	2015	36.11	32.72	42.12	35.95	52.33	
12	Arlington	VA	40	2011	26.03	22.93	31.76	23.59	40.64	
13	Broad Run ⁵	VA	11	2021	3.61	4.05	9.94	4.3	14.6	
14	Dale City	VA	9.2	2013	5.72	5.63	7.83	6.02	9.05	
15	H.L. Mooney	VA	24	2013	13.08	13.84	23.26	14.34	29.68	
16	Leesburg	VA	7.5	BNR only - No ENR	5.06	4.09	6.51	4.5	7.4	
17	Noman Cole ⁶	VA	67	2013	40.79	36.92	55.76	40.06	77.21	
18	UOSA	VA	54	2014	30.33	32.1	38.72	34.14	48.28	
TOTALS			769.5		546.50	517.93	640.63	556.6	753.38	
			% of Design Capacity			67%	83%	72%	98%	

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Notes/Sources:								
1	CBP's Database (from EPA ISIS database, populated from DMRs); 2009 used as Base Year Flow for COG RWFFM projections, while 2016 used as Base Year for CBP's projections.							
2	COG's Regional Wastewater Flow Forecast Model (RWFFM) - Utilizing COG's Cooperative Forecast Demographics (Round 9.0, Nov. 2016). This method is: a) used only for long-term planning purposes for the BPSA; b) used for confirming/portraying future flows for the overall COG region; and c) being evaluated in 2018 for potential modifications.							
3	CBP's Current Draft Methodology (as of 3/6/18) was developed as a supplemental aid states in planning their Phase 3 WIPs (and informing the question 'Where will WWTP flows/loads actually be in the Year 2025?'. https://www.chesapeakebay.net/channel_files/25900/projection2025_growth_w_wip_caps_draft.xlsx							
4	Blue Plains: Avg. Annual Design Capacity will be 387 mgd when new permit is issued; Projected Flows reflect 'Demographically Drive & Flow Management Adjusted' figures for BPSA, w/out Captured Stormwater Flows							
5	Calculations for Broad Run's COG Projected Flows were <i>assumed</i> to be increased by 6.0 & 10.63 mgd to reflect Loudoun diversion from BPSA to Broad Run in Years 2025 & 2045; this assumption has <u>not</u> been confirmed so the figures should be viewed as illustrative only.							
6	Calculations for Noman Cole's COG Projected Flows were <i>assumed</i> to be increased by 5.93 & 20.45 mgd to reflect FFX diversion from BPSA to Noma Cole in Years 2025 & 2045; this assumption has <u>not</u> been confirmed so the figures should be viewed as illustrative only.							

REGIONAL WASTEWATER FLOW FORECAST METHODOLOGY ASSESSMENT PROJECT

Purpose: Conduct an update of the RWFFM/BPSA Wastewater Flow Forecast Methodology on behalf of the Blue Plains Users. The methodology was last evaluated in 2009 by Black & Veatch, and previously by Metcalf & Eddy in 2001. Expectation is that an RFP will be issued to formally assess the methodology, and make recommendations for potential refinements or modifications.

Specifically evaluate the following elements of the methodology:

1. Whether use of Year 2009 actual annual flows is most appropriate Base Year Flow;
2. Whether current Flow Factors are still appropriate;
3. Whether current system-wide I/I assumptions are still appropriate;
4. Whether changes in the following drivers are significantly different enough to warrant incorporating directly in the methodology in some manner:
 - a. Groundwater patterns and/or precipitation (and any related climate change-related impacts);
 - b. Flow-saving and other changes in water consumption patterns has changed the relationship between predicted demographics and the projection of wastewater flows; and
5. Whether other methods for projecting future wastewater flows (& associated capacity needs) may be more appropriate for purposes of BPSA and regional long-term planning.

COG staff intend to work with the BPSA/IMA Parties and others in the region to gather initial information re: flow projection methodologies currently being used or evaluated (e.g., WSSC's recent detailed work); gather additional background on common industry methodologies; review that information with the Blue Plains User, and use that input to develop a targeted scope of work for the RFP.

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\\mwkog.org\dfs\DEP\BLUEPLAINS\Long-term Planning\BPSA RWFFM Update Project\BPSA Update Effort - 2016-2018\MAJOR WWTP ENR BPSA FLOW PROJECTIONS - Method Update to WRTC_051018.DOCX

