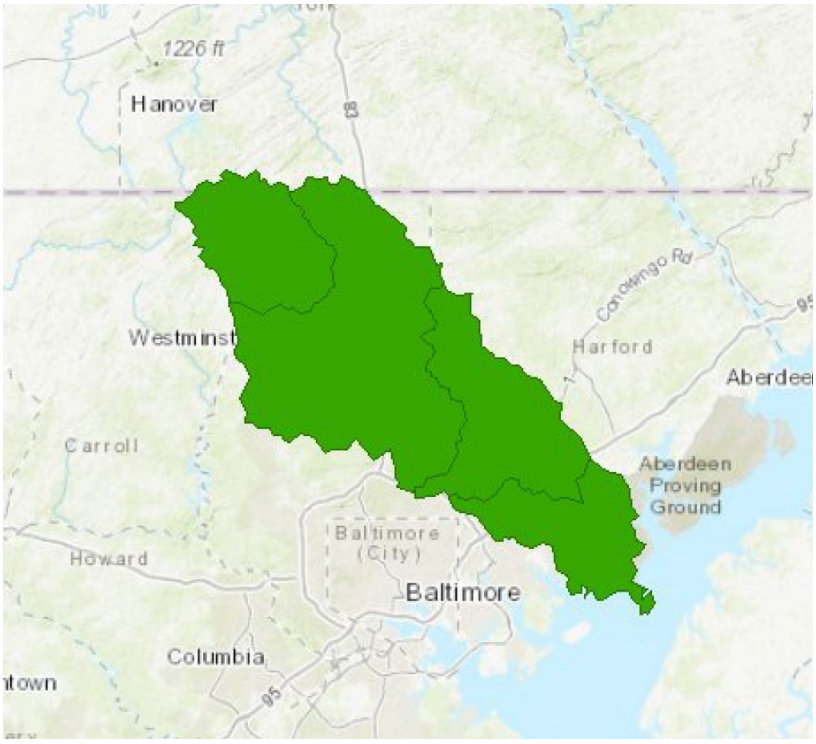
Appendices

1. Map of Clear Creeks Project area (Gunpowder watershed)
2. Descriptions of deliverables
3. Average Specifications for BMPs 2024-2026

1. **Map of Clear Creeks Project Area (Gunpowder watershed)**



Gunpowder watershed shown in green on the above map. The watershed is located mostly in Baltimore County, MD, with small portions in Harford and Carroll Counties (MD) and York County, PA.

2. Descriptions of deliverables

Bayscape/Edible Bayscape – Also known as a conservation landscape. The Maryland Department of the Environment defines conservation landscaping as "land cover conversion from pervious turf to a meadow condition"…"areas of managed turf that are converted into perennial meadows using species that are native to the Chesapeake Bay region." Bayscapes may include native grasses, perennials, shrubs, or small trees. Bayscapes support pollinators and other native wildlife, beautify landscapes, and are an environmentally friendly alternative to turfgrass. Edible Bayscapes may incorporate edible plants with natives to form a plant guild.

Rain garden – Maryland Department of the Environment (MDE) defines a rain garden as "a shallow, saucer-shaped depression that temporarily holds and treats stormwater runoff." Rain gardens are specially sized and engineered to reduce pollution and erosion by collecting and infiltrating stormwater from a specific drainage area flowing to the garden. Clear Creeks Project rain gardens use exclusively native plants, which may include grasses, perennials, shrubs, or small trees. Rain gardens may or may not have underdrains.

Micro-bioretention practice (MBR) – MDE defines micro-bioretention as "a filtration system that treats runoff from small areas by passing it through a mixture of sand, soil, and organic matter." Similar in function to rain gardens, MBRs incorporate additional engineering features such as soil replacement, gravel layers, perforated pipes, and underdrains to allow them to infiltrate stormwater from larger drainage areas with higher percentages of impervious drainage and/or poorer native soils. Clear Creeks Project MBRs use exclusively native plants, which may include grasses, perennials, shrubs, or small trees.

3. Average Specifications for BMPs 2024-2026 (see next page)

GVC Clear Creeks Project
Average BMP Specifications for 2024-2026

BMP / Performance Category	Proposed Value 2024-2026	Questions & Comments
Microbioretetion (Average)		
Impervious Area (draining to practice) SF	7,500	I = 38%
Target Total Drainage Area- SF	20,000	Total drainage area increased due to recent project experience
P_E Rainfall Target - INCHES	1.8	Based on I=38% & HSG"B" soils; All practices will meet or exceed WQ_V P_E of 1.0"
Average Practice Area - SF	400	Average MBR - 1.25' Ponding depth, 2.25' Filter Media, 1.0' Stone Reservoir
Target ESD_V – CF/gal	1,125/8,416	Avg treatment = 885CF (80% ESD_V)
Target WQ_V – CF/gal	625/4,675	Avg treatment = 885CF (140% WQ_V)
Residential Rain Garden (Average)		**Residential & Institutional RGs separated**
Impervious Area (draining to practice) – SF	1,200	I = 24%
Target Drainage area of practice - SF	5,000	
P_E Rainfall Target - INCHES	1.6	Based on I=24% & HSG"B" soils; All practices will meet or exceed WQ_V P_E of 1.0"
Average Practice Area - SF	225	Average RG – 0.67' Ponding depth, 1.0' Filter Media (amended)
Target ESD_V – CF/gal	180/1,346	Avg treatment = 200CF (110% ESD_V)
Target WQ_V – CF/gal	110/823	Avg treatment = 200CF (180% WQ_V)
Institutional Rain Garden (Average)		**Residential & Institutional RGs separated**
Impervious Area (draining to practice) – SF (50% target)	4,000	I = 67%
Target Drainage area of practice - SF	6,000	
P_E Rainfall Target - INCHES	2.0	Based on I=80% & HSG"C" soils; All practices will meet or exceed WQ_V P_E of 1.0"
Average Practice Area - SF	400	Average RG –1.0' Ponding depth, 1.0' Filter Media (replaced)
Target ESD_V – CF/gal	650/4,862	Avg treatment = 500CF (77% ESD_V)
Target WQ_V – CF/gal	325/2,431	Avg treatment = 500CF (154% WQ_V)

Bayscape Average Practice Area - 300 sq ft