

Urban Best Management Practice (BMP) Database and Codes

The BMP database below will tabulate a list of all BMPs within a jurisdiction. BMPs may be entered as a single structure or as a system of practices. For example, the ESD to the MEP mandate requires numerous ESD practices to be installed throughout a site in order to meet stormwater requirements. In these cases, local jurisdictions may enter the system of ESD practices by specifying the number and type of BMPs used to meet the target rainfall requirements (PE_REQ). This data may be entered in the NUM_BMPS and ESD_MEP fields shown below. Data for the Maryland grid coordinates should report the location of the downstream most practice.

Column Name	Data Type	Size	Description
YEAR	NUMBER	4	Annual report year
BMP_ID	TEXT	13	BMP ID code ¹
MD_NORTH	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Northing
MD_EAST	NUMBER	8	Maryland grid coordinate (NAD 83 meters) Easting
WATERSHED8DGT	NUMBER	8	Maryland 8-digit hydrologic unit code
WATERSHED12DGT	NUMBER	12	USGS 12-digit hydrologic unit code
BMP_NAME	TEXT	50	Name of BMP
BMP_CLASS	TEXT	1	BMP classification category (see list of BMPs: E, S, or A)
BMP_TYPE	TEXT	5	Type of BMP (see list of BMP classifications: enter code) ²
NUM_BMPS	NUMBER	2	Number of all BMPs used to meet PE_REQ
ESD_MEP	TEXT	75	Type of all BMPs used to meet PE_REQ
LAND_USE	NUMBER	3	Predominant land use ³
PERMIT_NUM	TEXT	11	MDE permit number
ADDRESS	TEXT	25	BMP address
CITY	TEXT	15	BMP City
STATE	TEXT	2	BMP State
ZIP	NUMBER	10	BMP zip code
ON_OFF_SITE	TEXT	10	On or offsite structure
CON_PURPOSE	TEXT	4	New development (NEWD), Redevelopment (REDE), or Restoration (REST)
CONVERTED_FROM	TEXT	5	If conversion of existing BMP then prior BMP type is required
BMP_STATUS	TEXT	10	Status of BMP (active, removed)
DRAIN_AREA	NUMBER	6	Structure drainage area (acres) ⁴
IMP_ACRES	NUMBER	8	Structure impervious drainage area (acres) ⁴
PE_REQ	NUMBER	8	P _E required ⁵
PE_ADR	NUMBER	8	P _E addressed ⁶
IMP_ACRES_REST	NUMBER	4	Equals IMP_ACRES when PE_ADR = 1 inch (for restoration only)
RCN_PRE	NUMBER	2	Runoff curve number (weighted) ⁷
RCN_POST	NUMBER	2	Runoff curve number (weighted) ⁷
RCN_WOODS	NUMBER	2	Runoff curve number (weighted) ⁷
APPR_DATE	DATE/TIME	8	Permit approval date
BUILT_DATE	DATE/TIME	8	As Built completion date (MM/DD/YYYY)
GEN_COMNT	TEXT	60	General comments

ADDITIONAL DATA REQUIREMENTS FOR ALL ALTERNATIVE BMPS			
PROJECT_NAME	TEXT	25	Name of project
PROJECT_DESCR	TEXT	75	Description of project
PROJECT_LENGTH	NUMBER	6	For stream restoration, shoreline stabilization, or outfall stab in feet
ACRES_SWEPT	NUMBER	6	Acres swept for street sweeping
TIMES_SWEPT	NUMBER	6	Number of times per year area is swept
ACRES_PLANTED	NUMBER	6	Acres of trees planted on urban impervious (IMPF)
ACRES_PLANTED	NUMBER	6	Acres of trees planted on pervious (FPU)
IMPERV_ACR_ELIM	NUMBER	6	Impervious acres removed to pervious land (IMPP)
EQ_IMP_ACRES	NUMBER	6	Equivalent impervious acres treated by alternative BMP (see Table 5)
INSPECTION/MAINTENANCE DATA REQUIRED FOR ALL NEW, REDEVELOPMENT, RETROFIT, AND ALTERNATIVE BMPS			
BMP_STATUS	TEXT	4	Pass/Fail
LAST_INSP_DATE	DATE/TIME	8	Last inspection date
MAIN_DATE	DATE	8	Last date maintenance was performed (MM/DD/YYYY)
REINSP_STATUS	DATE/TIME	4	Pass/Fail
REINSP_DATE	DATE/TIME	8	Next planned inspection date (MM/DD/YYYY)
REPORTING YEAR	TEXT	4	State fiscal year (YYYY)
GEN_COMNT	TEXT	60	General comments

MDE Approved BMP Classifications

ESD BMPS		
Category	Code	Code Description
Alternative Surfaces (A)		
E	AGRE	Green Roof – Extensive
E	AGRI	Green Roof – Intensive
E	APRP	Permeable Pavements
E	ARTF	Reinforced Turf
Nonstructural Techniques (N)		
E	NDRR	Disconnection of Rooftop Runoff
E	NDNR	Disconnection of Non-Rooftop Runoff
E	NSCA	Sheetflow to Conservation Areas
Micro-Scale Practices (M)		
E	MRWH	Rainwater Harvesting
E	MSGW	Submerged Gravel Wetlands
E	MILS	Landscape Infiltration
E	MIBR	Infiltration Berms
E	MIDW	Dry Wells
E	MMBR	Micro-Bioretention
E	MRNG	Rain Gardens
E	MSWG	Grass Swale
E	MSWW	Wet Swale
E	MSWB	Bio-Swale
E	MENF	Enhanced Filters
Structural BMPS		
Ponds (P)		
S	PWED	Extended Detention Structure, Wet
S	PWET	Retention Pond (Wet Pond)
S	PMPS	Multiple Pond System
S	PPKT	Pocket Pond

S	PMED	Micropool Extended Detention Pond
Wetlands (W)		
S	WSHW	Shallow Marsh
S	WEDW	ED – Wetland
S	WPWS	Wet Pond – Wetland
S	WPKT	Pocket Wetland
Infiltration (I)		
S	IBAS	Infiltration Basin
S	ITRN	Infiltration Trench
Filtering Systems (F)		
S	FBIO	Bioretention
S	FSND	Sand Filter
S	FUND	Underground Filter
S	FPER	Perimeter (Sand) Filter
S	FORG	Organic Filter (Peat Filter)
S	FBIO	Bioretention
Open Channels (O)		
S	ODSW	Dry Swale
S	OWSW	Wet Swale
Other Practices (X)		
S	XDPD	Detention Structure (Dry Pond)
S	XDED	Extended Detention Structure, Dry
S	XFLD	Flood Management Area
S	XOGS	Oil Grit Separator
S	XOTH	Other

MDE Approved Alternative BMP Classifications

Alt. BMPs (A)	Code	Code Description
A	MSS	Mechanical Street Sweeping
A	VSS	Regenerative/Vacuum Street Sweeping
A	IMPP	Impervious Surface Elimination (to pervious)
A	IMPF	Impervious Surface Elimination (to forest)
A	FPU	Planting Trees or Forestation on Pervious Urban
A	CBC	Catch Basin Cleaning
A	SDV	Storm Drain Vacuuming
A	STRE	Stream Restoration
A	OUT	Outfall Stabilization
A	SPSC	Regenerative Step Pool Storm Conveyance
A	SHST	Shoreline Management
A	SEPP	Septic Pumping
A	SEPD	Septic Denitrification
A	SEPC	Septic Connections to WWTP

Notes:

1. Use unique BMP identification codes listed below
2. For ESD to MEP, enter the most predominant BMP type
3. Use Maryland Office of Planning (MDP) land use codes listed below
4. GIS shapefile optional
5. Rainfall target (from Table 5.3, Design Manual pp.5.21-22) used to determine ESD goals and size practices (for new development or redevelopment). If practice is for restoration, then PE_REQ is 1inch.
6. Rainfall addressed (using both ESD techniques and practices, and structural practices) by the BMPs within the drainage area
7. Optional - information should be submitted if available

BMP Identification Codes: Each stormwater best management structure or water quality improvement project will need a unique identification code. For management of these data statewide it is necessary that these codes also indicate the jurisdiction where they are implemented, the year, and unique BMP number. County, City, or State abbreviations are listed below for NPDES jurisdictions to use as part of each BMP's identification code.

Jurisdiction	Code
Anne Arundel County	AA
Baltimore City	BC
Baltimore County	BA
Carroll County	CA
Cecil County	CC
Charles County	CH
Frederick County	FR
Harford County	HA
Howard County	HO
Prince George's County	PG
Montgomery County	MO
Maryland State Highway Administration	SHA
Washington County	WH

Small municipalities and State and federal agencies may develop their own jurisdiction code. An example BMP code for a federal agency using the required 13 characters is provided for a BMP located at National Institute of Health (NIH) implemented in 2012. In this case, the BMP ID code may be: NIH12BMP00001

MDP Land Use/Land Cover

10 Urban Built-up

- **11 Low Density Residential** – Detached single family/duplex dwelling units, yards, and associated areas. Areas of more than 90 percent single family/duplex dwelling units, with lot sizes less than five acres but at least one-half acres (0.2 dwelling units/acre to 2 dwelling units/acre).
- **12 Medium Density Residential** – Detached single family/duplex, attached single unit row housing, yards, and associated areas. Areas of more than 90 percent single family/duplex units and attached single unit row housing, with lot sizes of less than one-half acre but at least one-eighth acre (2 dwelling units/acre to 8 dwelling units/acre).
- **13 High Density Residential** – Attached single unit row housing, garden apartments, high rise apartments/condominiums, mobile home and trailer parks. Areas of more than 90 percent high density residential units, with more than 8 dwelling units/acre.
- **14 Commercial** – Retail and wholesale services. Areas used primarily for the sale of products and services, including associated yards and parking areas.
- **15 Industrial** – Manufacturing and industrial parks, including associated warehouses, storage yards, research laboratories, and parking areas.

- **16 Institutional** – Elementary and secondary schools, middle schools, junior and senior high schools, public and private colleges and universities, military installations (built-up areas only, including buildings and storage, training, and similar areas) churches and health facilities, correctional facilities, and government offices and facilities that are clearly separable from the surrounding land cover.
- **17 Extractive** – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.
- **18 Open Urban Land** – Urban areas whose use does not require structures, or urban areas where non-conforming uses characterized by open land have become isolated. Included are golf courses, parks, recreation areas (except associated with schools or other institutions), cemeteries, and entrapped agricultural and undeveloped land within urban areas.
- **191 Large Lot Subdivision (Agriculture)** – Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.
- **192 Large Lot Subdivision (Forest)** - Residential subdivisions with lot sizes less than 20 acres but at least 5 acres, with a dominant land cover of deciduous, evergreen or mixed forest.

20 Agriculture

- **21 Cropland** – Field and forage crops.
- **22 Pasture** – Land used for pasture, both permanent and rotated: grass.
- **23 Orchards/Vineyards/Horticulture** – Areas of intensively managed commercial bush and tree crops, including areas used for fruit production, vineyards, sod and seed farms, nurseries, and green houses.
- **24 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals, and commercial fishing areas (including oyster beds).
- **241 Feeding Operations** – Cattle or hog feeding lots, poultry houses, and holding lots for animals.
- **242 Agricultural Building** – Breeding and training facilities, storage facilities, built-up areas associated with a farmstead, small farm ponds, and commercial fishing areas.
- **25 Row and Garden Crops** – Intensively managed track and vegetable farms and associated areas.

40 Forest

- **41 Deciduous Forest** – Forested areas in which the trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress.
- **42 Evergreen Forest** - Forested areas in which the trees are characterized by persistent foliage throughout the year. Included are such species as white pine, pond pine, hemlock, southern white cedar, and red pine.
- **43 Mixed Forest** – Forested areas in which neither deciduous or evergreen species dominate, but in which there is a combination of both types.
- **44 Brush** – Areas that do not produce timber or other wood products but may have cut-over timber stands, abandoned agriculture fields, or pasture. These areas are characterized by vegetation types such as sumac, vines, rose, brambles, and tree seedlings.

50 Water – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

60 Wetlands – Forested and non-forested wetlands, including tidal flats, tidal and non-tidal marshes, and upland swamps and wet areas.

70 Barren Land

- **71 Beaches** – Extensive shoreline areas of sand and gravel accumulation, with no vegetative cover or other land use.
- **72 Bare Exposed Rock** – Areas of bedrock exposure, scarps, and other natural accumulations of rock without vegetative cover.
- **73 Bare Ground** – Areas of exposed ground caused naturally, by construction, or other cultural processes.