

A comparative assessment of the effectiveness of current urban best management practices							
URBAN BMP OPTIONS*	RELIABILITY FOR POLLUTANT REMOVAL	LONGEVITY*	APPLICABLE TO MOST DEVELOPMENTS	WILDLIFE HABITAT POTENTIAL	ENVIRONMENTAL CONCERNS	COMPARATIVE COST	SPECIAL CONSIDERATIONS
STORMWATER WETLANDS	Moderate to high, depending on design	20+ years	Applicable to most sites if land is available	High	Stream warming; natural wetland alteration	Marginally higher than wet ponds	Recommended with design improvements and the use of micropools and wetlands
EXTENDED DETENTION PONDS	Moderate, but not always reliable	20+ years, but frequent clogging and short detention common	Widely applicable, but requires at least 10 acres of drainage area	Moderate	Possible stream warming and habitat destruction	Lowest cost alternative to size range	Recommended with design improvements and the use of micropools and wetlands
WET PONDS	Moderate to high	20+ years	Widely applicable, but requires drainage area of greater than 2 acres	Moderate to high	Possible stream warming, trophic shifts, habitat	Moderate to high compared to conventional	Recommended, with careful site evaluation
MULTIPLE POND SYSTEMS	Moderate to high; redundancy in-creases reliability	20+ years	Widely applicable	Moderate to high	Selection of appropriate pond option minimized overall environmental impact	Most expensive pond option	Recommended
INFILTRATION TRENCHES	Presumed moderate	50% failure rate within five years	Highly restricted (soils, groundwater, slope, area, sediment input)	Low	Slight risk of groundwater contamination	Cost-effective on smaller sites; rehab costs can be considerable	Recommended with pretreatment and geotechnical evaluation
INFILTRATION BASINS	Presumed moderate if working	60-100% failure within 5 years	Highly restricted (see infiltration trench)	Low to moderate	Slight risk of groundwater contamination	Construction cost moderate, but rehab cost high	Not widely recommended until longevity is improved
POROUS PAVEMENT	High (if working)	75% failure within 5 years	Extremely restricted (traffic, soils, groundwater, slope, area, sediment input)	Low	Possible groundwater contamination	Cost-effective compared to conventional asphalt when working properly	Recommended in highly restricted applications with careful construction and effective maintenance
SAND FILTERS	Moderate to high	20+ years	Applicable for smaller developments	Low	Minor	Comparatively high construction costs and frequent maintenance	Recommended, with local demonstration
GRASSED SWALES	Low to moderate, but unreliable	20+ years	Low density development and roads	Low	Minor	Low compared to curb and gutter	Recommended, with checkdams as one element of a BMP system
FILTER STRIPS	Unreliable in urban settings	Unknown, but may be limited	Restricted to low-density areas	Moderate if forested	Minor	Low	Recommended as one element of a BMP system
WATER QUALITY INLETS	Presumed low	20+ years	Small, highly impervious catchments (<2 acres)	Low	Resuspension of hydrocarbon loadings; disposal of hydrocarbon and toxic residuals	High, compared to trenches and sand filters	Not currently recommended as a primary BMP option

* Based on current designs and prevailing maintenance practices. Source: Metropolitan Washington Council of Governments 1992.