

You Get What You Pay For: Inlets, Exits, and Perimeter Controls

High Maintenance Items That Need Careful Thought Before Installation



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Sediment controls are expensive due to man power needed for maintenance



Inspections frequently call attention to three main BMPs:

➤ Inlet Protection Devices



➤ Construction Entrances



➤ Perimeter Controls



INLET PROTECTION

Purpose:

To prevent or limit the amount of sediment and debris that enters a stormwater inlet. Devices may either filter material or intercept/slow velocity to allow for gravity settling of particles.

Note:

Inlet devices must **not** significantly block flow of water or they will cause flooding. Maintenance must be performed regularly.

Low cost vs. Medium cost



Device works well in small rain events. Prone to flooding in large events and can clog without frequent maintenance. 50% reusable.



Device works well in all rain events. No flooding issues except tropical storms. Still requires maintenance. 100% reusable.

Inlet Protection BMPs

Types:

- Filtration

- Flow Reduction/Gravity Settling

- Combination



Inlet Protection BMPs:
Filtration



Cost range: \$1 / Sft. (filter cloth) - \$4 / Lft.



Inlet Protection BMPs: Intercept/Flow Reduction





The best BMP device has overflow capability to reduce any chance of clogging/flooding

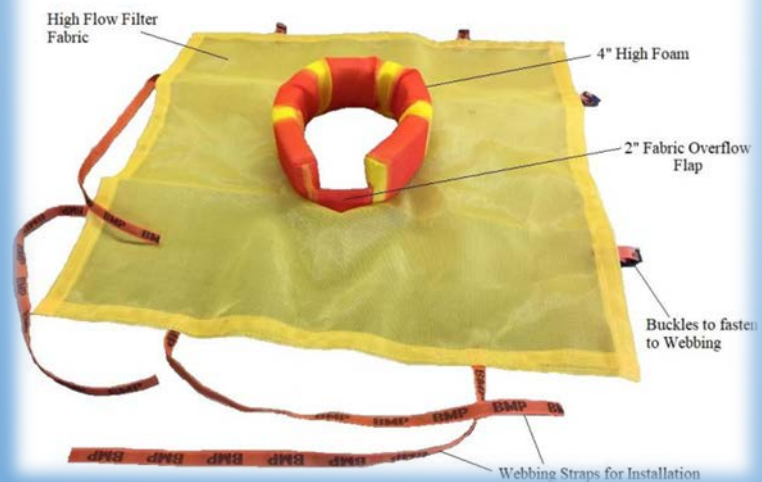


Inlet Protection BMPs: Combination





Cost range: \$2-6 / Lft., drop inlet devices price varies





Spending less on inlet controls means spending more on maintenance

CONSTRUCTION ENTRANCE PROTECTION

Purpose:

To reduce the amount of sediment tracked on to roadways by construction equipment. Devices may shake loose the soil or cause tires to flex or rub on surface area to remove material.

Note:

BMP maintenance will still be needed to maintain void space capacity for sediment capture.

Construction Entrance BMPs

Types:

- Aggregate/Stone

- Metal Grate

- Plastic Polygon

- Other

Construction Entrance BMPs: Aggregate/Stone





Cost range: \$6,500 - 8,000



Construction Entrance BMPs: Metal Grate

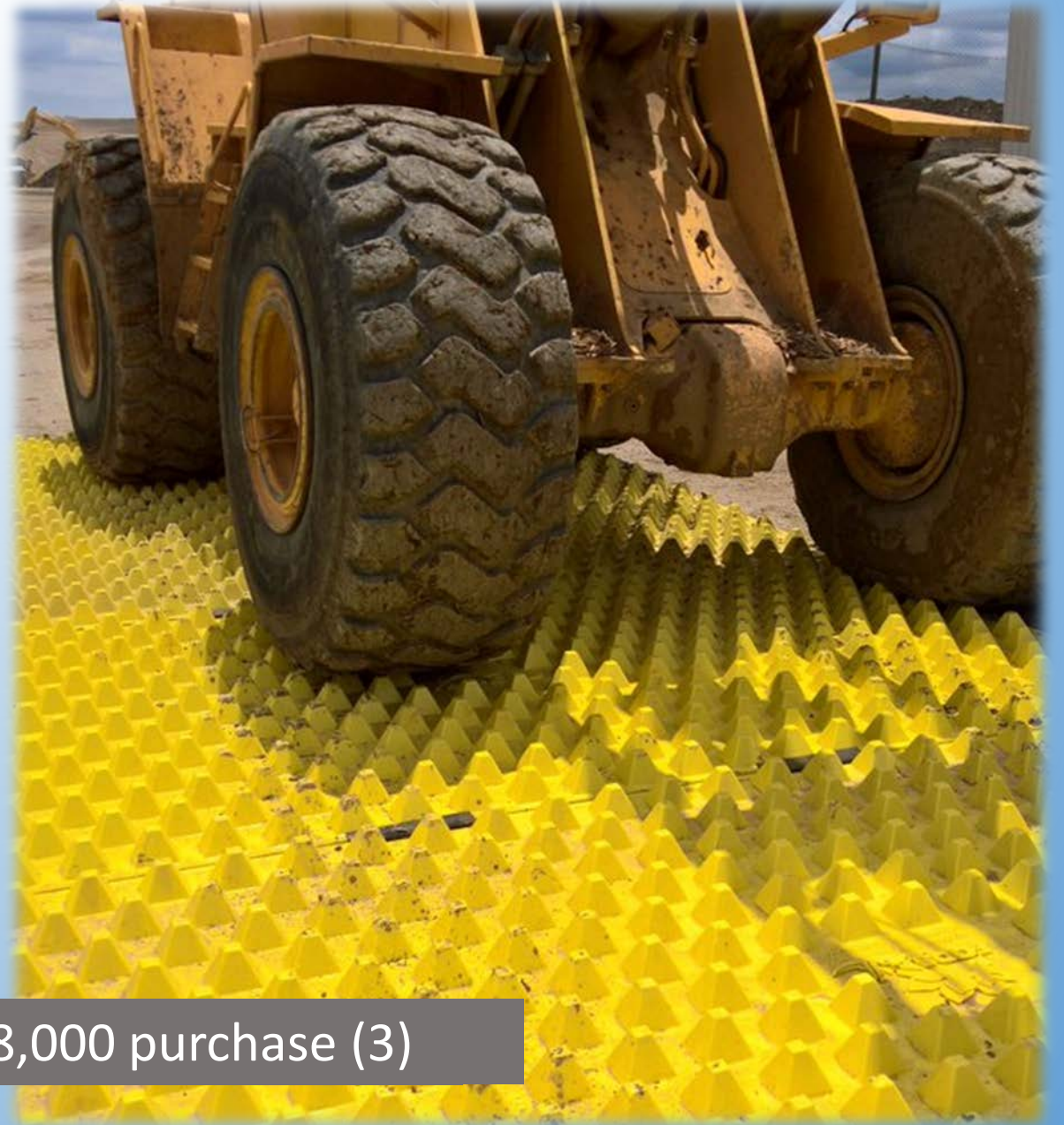


Cost range: \$750/mo. rental or \$10,500 purchase (3)



Construction Entrance BMPs: Plastic Polygon





Cost range: \$6,000 – 8,000 purchase (3)



Cost range: Mud Mats \$1,200 purchase (4)



Rock construction entrances cost between \$6,500-\$8,000 from installation to disposal in landfill. Metal and plastic entrances cost between \$8,000-\$10,000 one time and are 100% reusable.

PERIMETER CONTROLS

Purpose:

To reduce sheet flow velocity, provide sediment capture, provide filtration (varies). Some perimeter controls are entrenched in soil for stability with supports on the downstream side. Other controls are laid along the surface and conform to soil topography. **Perimeter controls work best when combined with other sediment/erosion control BMPs.**

Note:

Perimeter controls must be cleaned upon reaching $\frac{1}{2}$ device height to ensure sediment capture.

Perimeter Control BMPs

Types:

- Silt Fence
- Wattles/Fiber Rolls
- Compost Socks



Perimeter Control BMPs: Silt Fence



Cost range: \$0.14 / Lft. – 2.15 / Lft.,
Not including stakes





Perimeter Control BMPs: Wattles/Fiber Rolls



Cost range: \$2 – 3.50 / Lft., Depending on fill and diameter





Works best when combined with other BMP layers



Perimeter Control BMPs: Compost Sock





Cost range: \$3 - 5 / Lft.





Works best when combined with other BMP layers

In Summary:

- BMPs work best when designed as layers
- Reusable BMPs re-pay within 2 uses
- Sediment controls are maintenance intensive
- Erosion controls are one and done (usually)
- You get what you pay for

- International Erosion Control Association

<http://www.ieca.org/>

- International Stormwater BMP Database

<http://www.bmpdatabase.org/>

- Certified Inspector of Sediment and Erosion Control

<https://www.cisecinc.org/>

INFORMATION SOURCES

- *Field Manual on Sediment and Erosion Control Best Management Practices for Contractors and Inspectors*, Jerald S. Fifield, PhD, CPESC, 2005
- Local Erosion Control Vendors

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