

## Catherine and Isiah Leggett Math and Science Building Erosion and Sediment Control Fact Sheet

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The purpose of erosion and sediment control devices and procedures is to control the adverse impacts to adjacent properties, public spaces, storm drain systems, and rivers and streams associated with soil erosion and sedimentation in stormwater runoff from a construction site. In Maryland, a Maryland Certified Professional Engineer designs erosion and sediment control plans in accordance with Maryland Department of Environment (MDE) standards and specifications with review and approval completed by Montgomery County.

The erosion and sediment control plans for the Catherine and Isiah Leggett Math and Science Building were designed by engineers with A. Morton Thomas and Associates, Inc. These plans were submitted to the Montgomery County Department of Permitting Services (DPS). After DPS reviewed and approved the plans, Montgomery County issued the Erosion Control Permit for the project.

### Erosion and Sediment Control (ESC) Basics

An active construction site typically includes large areas of disturbed earth that go long periods of time exposed to weather without receiving the protective cover of grass, other plantings, structures, or pavement. These areas are prone to erosion and sediment migration during weather events or even day-to-day construction activities.

Erosion within unprotected portions of a construction site can lead to ground failure or wash-outs.

Sediment that is allowed to leave a job site can pollute nearby waterways, create build-up and blockages within storm drain infrastructure, harm downstream properties or even harm public safety by creating build-ups of loose dirt or gravel on streets and sidewalks.

### ESC Plans for the Project Site

There are multiple tools that can be utilized for effective control of soil erosion and sediment on a typical construction project site. Mitigation measures that are implemented by Barton Malow, the construction management firm, on the Leggett Building Project site are described and shown in the corresponding photos that follow:

- **Grading and Stabilization**

This includes the use of a large stone construction entrance, with a wash-rack built-in, to help prevent vehicles leaving a site from tracking loose dirt or stone onto the street.

*Right: Fenton Street stabilized construction entrance and wash rack.*



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- **Grading and Stabilization** *(continued)*

Site work is phased to disturb and grade land only as needed, with measures taken to stabilize these areas (i.e. straw, mulch, manufactured matting or temporary seed) when they are anticipated to remain exposed for more than a few days.



*Straw mat used for stabilization.*

- **Water Conveyance**

Runoff within a site is directed to filtering or trapping devices. This is done with earth berms, temporary swales, diversion fencing, temporary barriers, temporary asphalt berms or temporary diversion piping. This practice helps filter water, so it is clear when leaving the site.

- **Erosion Control**

These practices are intended to reduce erosion on the site from concentrated runoff flows. This includes placing temporary piping to intercept large flows before they are allowed to run down a slope. This measure is utilized on the east side of the site adjacent to the Commons Building to capture water from off site that runs down the ramp from Academic Court.



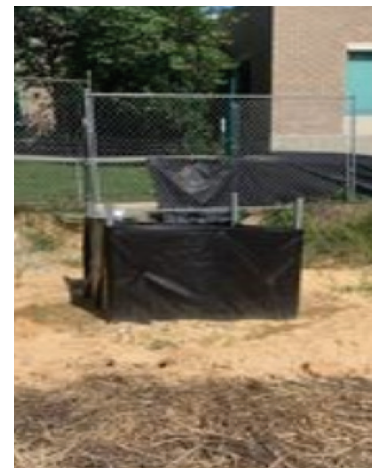
*Silt fence with temporary piping to intercept runoff flows.*

- **Filtering**

Filtering practices are intended to filter most sediment out of onsite runoff before allowing said runoff to leave a site either through direct runoff to a stream, flow into a storm drain system, or to a drainage channel. These practices involve the use of a fine geotextile fabric placed at a runoff discharge point.



*Super silt fence*



*Inlet protection*

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- **Filtering** (*continued*)

The types of filtering practices on the Leggett construction site include silt fence, super silt fence, inlet protection, filter logs/socks or filter bags (whereby dirty water is pumped into a large geotextile bag).

*Right: Filter log, a large geotextile bag placed at the runoff discharge point.*



## ESC Implementation Schedule for the Project Site

The erosion and sediment control measures for the Leggett Building project site noted above were designed to be implemented during three different phases of work:

- **Initial Phase – Demolition.**

During this phase, the stabilized construction entrance with wash rack is located at the main entrance on Fenton Street. On the west side of the site, along Fenton and wrapping around the corner at Takoma Avenue, there are several layers of perimeter protection consisting of a temporary asphalt berm, diversion fencing and the existing parking lot curb. The intent is to keep runoff on site, directed toward filtering systems. All existing storm drain inlets within the project limits were outfitted with inlet protections (filtering). Small sections of super silt fence were installed in areas adjacent to Commons Building.

- **Interim Phase – Site Work.**

Most of the initial practices remain in place. New inlet protections will be installed as new inlets are installed. Locations of silt fence will be adjusted as needed to allow for land grading. A second stabilized construction entrance, with wash rack, is proposed on the south side of the project along Fenton.

- **Final Phase – Site Improvements.**

Most prior practices remain in place. The additional super silt fence installed along Fenton Street as the existing parking lot on site will be removed and this area will be replaced with open space and sidewalks. As final stormwater management facilities are installed, they will be wrapped with silt fence as an additional measure to prevent runoff from overwhelming these facilities. Additional silt fence will be installed along the lower side of the fire access road adjacent to New York Avenue.

## ESC In the Event of Significant Precipitation

All erosion control practices are inspected regularly by Barton Malow, construction managers, particularly after major rain events. Any deficiencies are corrected immediately, and adjacent streets are promptly swept clean as needed.

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### **ESC In the Event of Significant Precipitation** *(continued)*

A Montgomery County Department of Permitting Services (DPS) inspector visits the site regularly, and after storms. The DPS inspector has the authority to direct changes to the erosion control strategy as field conditions change and may take necessary action to ensure compliance.

A construction site evolves over time and drainage patterns are prone to change. It is not uncommon to adjust the types and locations of erosion control practices in order to account for changes. The Barton Malow and Montgomery College team actively monitor the needs of the erosion and sediment control measures on this site. The team follows the guidance of the DPS inspector and will make modifications necessary to ensure proper protocols are in place.

### **More Information**

Questions related to Erosion and Sediment Control, may be submitted to the project email, [community@montgomerycollege.edu](mailto:community@montgomerycollege.edu), or for immediate concerns, call the project hotline at 800-879-9879.