



# PERMANENT EROSION CONTROL SOLUTIONS

*Erosion Prevention and Protection*



**Flexamat® Provides Permanent Erosion Control Solutions for a Wide Range of Applications Including:**

AIRPORTS

DOT ROADSIDE

DRIVABLE SURFACES

ENERGY SECTOR

INLETS/OUTLETS

LANDFILL/MINE RECLAMATION

SHORELINE

STREAM AND RIVERBANK



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## OUR COMPANY

Motz Enterprises, Inc. is the manufacturer of **Flexamat**<sup>®</sup>. The company has been in business for over 30 years and is headquartered in Cincinnati, Ohio.

**Flexamat**<sup>®</sup> is sold throughout the United States and Canada with material available locally in most areas.

We take pride in our performance and specifying the right product for the right application.

**Flexamat**<sup>®</sup> is an effective, long term solution. We look forward to working with you.



South Platte River, CO



Flexamat<sup>®</sup>

# Learn More About How Flexamat® Is The Best Permanent Erosion Solution!



## ABOUT Flexamat®

### Permanent Erosion Control

**Flexamat®** is a permanent erosion control mat utilized for stabilizing slopes, channels, low water crossings, inlet/outlet protection, and shorelines. Tied Concrete Block Mat is a generic term for **Flexamat®**. It consists of concrete blocks (6.5" x 6.5" with a 2.25" profile) locked together and embedded into a high strength geogrid. There is 1.5" spacing between the blocks that gives the mat flexibility and allows for optional vegetation growth. The mat is packaged in rolls, making transporting and installing **Flexamat®** efficient. It is manufactured with various underlayments, determined by onsite conditions.

### Vegetated Solution

**Flexamat®** offers permanent, hard armor protection, with a natural vegetation. **Flexamat®** may be mowed over with commercial mowing equipment or left to grow wild. Besides grass, there are many other types of native plant species that can be planted to grow within the mat. For example, Willow stakes and other native plugs can be planted within **Flexamat®**.

### Work With Nature, Not Against

Incorporating perennial vegetation into storm water treatment plans will encourage the benefits of phytoremediation which is the direct use of living green plants for the removal, degradation or containments of contaminants. The establishment of perennial vegetation increases infiltration of storm water runoff into the soil, increased removal of pollutants found in road and parking lots runoff (oils & grease, metals, break dust salt, garbage, nutrients) through filtration and phytoremediation. The perennial vegetation also reduces or eliminates the thermal impacts to storm water runoff by shading the concrete blocks from sunlight and aiding in infiltration and filtering of the runoff, unlike rip rap or other hard armor alternatives.



## BENEFITS OF Flexamat®

### HIGH PERFORMANCE

The moment its installed un-vegetated capabilities, 19ft./sec. & 24 PSF

### EASY MAINTENANCE

Safe to mow over

### FAST INSTALLATION

Roll design makes installation efficient

### SIMPLE INSTALLATION

Personnel can install with their own equipment

### AESTHETICALLY PLEASING

Conforms to landscape

### IMPROVES SAFETY

Safe for motorist to drive across

### ENVIRONMENTALLY FRIENDLY

Safe for pedestrians and wildlife to walk across

### REDUCES CONSTRUCTION COSTS

Low material cost, less labor and faster project completion.

### DISCOURAGES GRAFFITI

Vegetated solution rather than poured in place concrete

### IMPROVES WATER QUALITY

Offers phytoremediation and reduces thermal impact

### LOW-IMPACT DEVELOPMENT (LID)

Helps achieve MS4 permit requirements

# Departments of Transportation Roadways Protection

FEDERAL | STATE | MUNICIPAL





Three months after installation.

One year after installation.



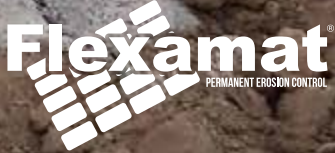
# Departments of Transportation Roadways Protection

FEDERAL | STATE | MUNICIPAL





One year after installation.



# Inlet & Outlet Erosion Protection



Outlet with failing Rip Rap.



Outlet armored with Flexamat®, 3 years after installation.



Armored inlet.



Griffin, GA - Eroded outlet.



Griffin, GA - Repaired outlet.





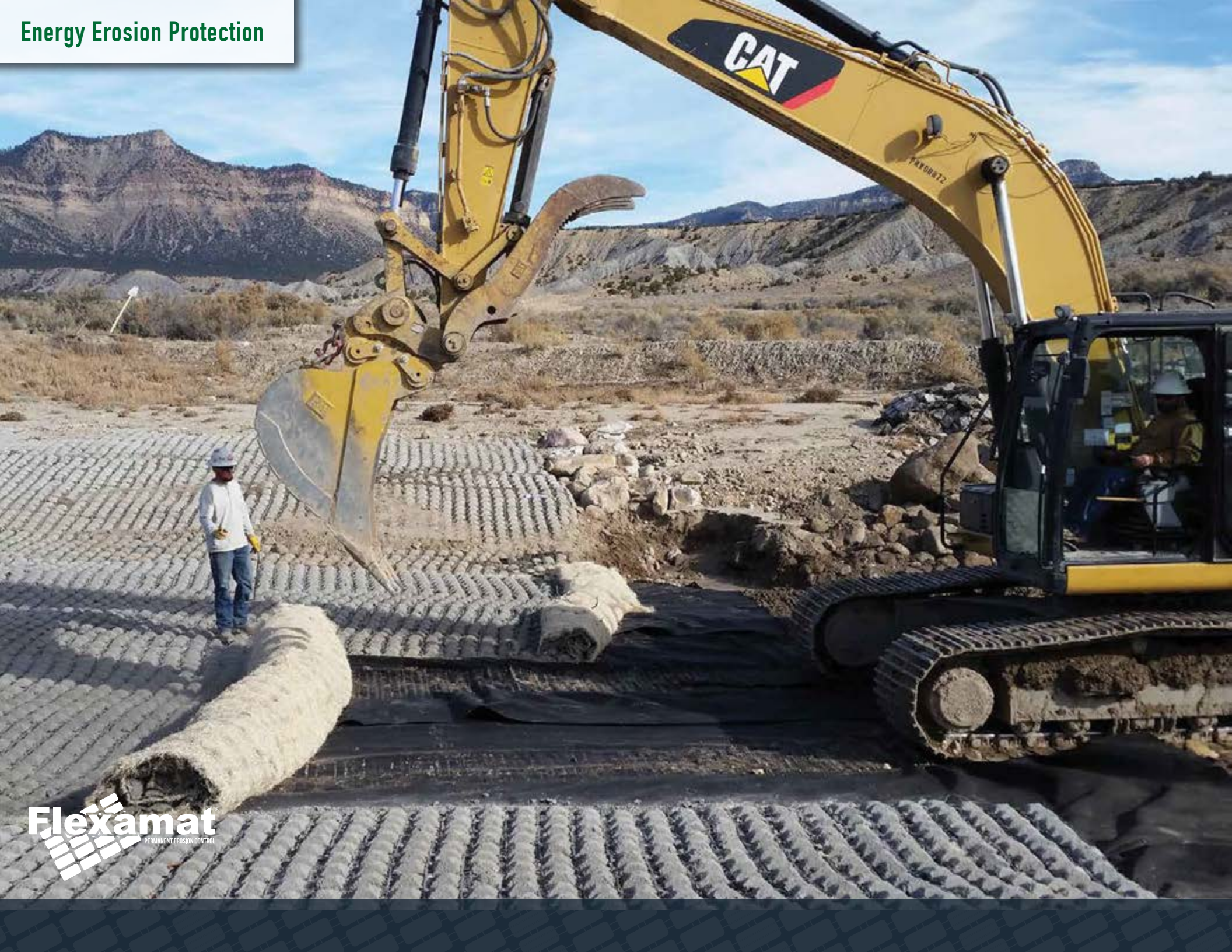
60' wide letdown just installed.



60' wide letdown 4 years after installation.



# Energy Erosion Protection





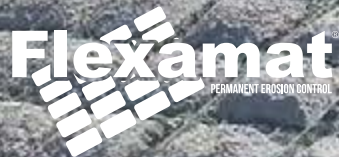
Exposed high pressure gas pipeline.

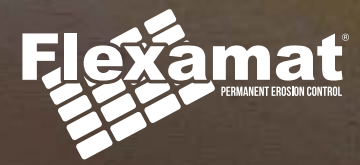


# Flood Control



One year after installation.





# Canals



Three months after installation.



Gas powered driver installation.

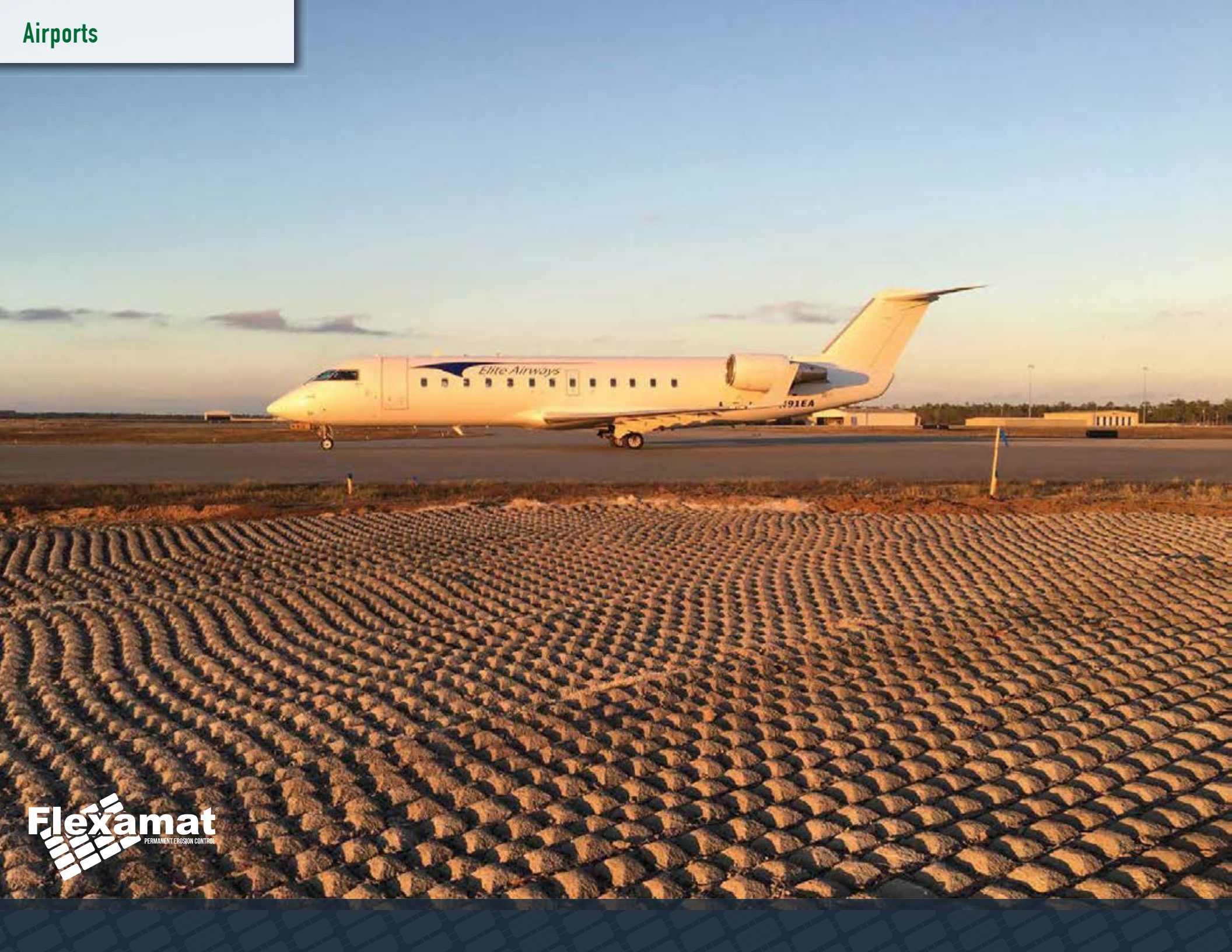


Loading anchor with Jack Jaw®



Cutting excess cable.









# Shoreline Erosion Protection





# Creek Erosion Protection





# Drivable Surfaces Erosion Protection



Boat ramp.



Gravel infill for residential driveway.



Access road to high school stadium.



# Flexamat® Project Check List



Flexamat® Standard with Curlex II® backing



Flexamat® Plus with Curlex II® and Recyclex backing



Flexamat® with non-woven fabric backing

## Flexamat® Project Check List:

Here are some suggestions for a successful **Flexamat®** installation:

Decide which **Flexamat®** option is best for the site.

1. Curlex II® 2. **Flexamat®** PLUS 3. Geotextile (10 oz.)

- Order **Flexamat®** (may need up to 5-7% waste factor)
- Have installation crew watch videos on **Flexamat®**'s YouTube Channel
- Plan staging area for **Flexamat®**
- Prepare work prior to installation – remove stumps, rocks, soil, etc – for smooth surface
- Seed and fertilizer, this needs to be done prior to installation of **Flexamat®**
- Clevis shackle of appropriate weight rating. (For connecting to D-ring on bucket.)
- Swivel and rigging with latched sling hooks of appropriate weight rating.
- 3-4 moving hooks (Used for adjusting **Flexamat®** as needed during installation.)
- Lifting straps for large rolls.
- Smooth (toothless) bucket on excavator (refer to install videos)
- May be needed - #3 rebar 18" U-Anchors or Cross Plate Percussion Anchors
- May be needed - Curlex II® or Recyclex® TRM for seams and edges
- Gloves
- Rakes & Shovels
- Clevis
- Swivel and rigging w/ latched sling hooks
- Chop saw if cutting is required







## HYDRAULIC DATA

### 30% Flume Test

Non-vegetated testing on 30% slope over sandy loam soil, results:  $\tau$ limit FLEXAMAT(std) = 24+ psf  
 $V$ limit FLEXAMAT(std) = 19+ ft/sec.



Rectangular Channel Setup



Gravity Flow to Flume



Channel Flow Velocity Measurement (Typical)



Low Flow In Channel



Medium Flow In Channel



High Flow In Channel



Rectangular Channel After High Flow



Channel After Matting Removed (no apparent soil surface disruption)

## ROLLS

### CORE AND NO-CORE

**Flexamat® Standard** is delivered without a core. Cores can be added.



Standard Flexamat® (no core)



Flexamat® (with core added)

## GENERAL COMPOSITION OF MATERIALS

<b>Blocks</b>	5000 PSI, Wet-cast Portland Cement
<b>Interlocking Biaxial Geogrid</b>	Fornit 30/30 Polypropylene Geogrid with 2,055 lb/ft biaxial strength
<b>Underlayment Options</b>	<b>Standard</b> - Curlex® II ECB <b>Plus</b> - Recyclex® TRM-V & Curlex® II ECB <b>Fabric</b> - 10 oz NW fabric *More options available upon request

## MANUFACTURING VALUES

<b>Flexamat® Properties</b>	Values
<b>Roll Width</b>	4' 5.5' 8' 10' 12' 16'
<b>Roll Length</b>	30' 40' 50' /Custom
<b>Material Weight</b>	10 lbs./sf
<b>Block Size</b>	6.5" x 6.5" x 2.25"
<b>Percentage Open Area (POA)</b>	30% min.

## PERFORMANCE

Test	Tested Value	Bed Slope	Soil Classification	Limiting Value
ASTM 6460	Shear Stress	30%	Sandy Loam (USDA)	24+PSF
ASTM 6460	Velocity	30%	Sandy Loam (USDA)	19+ ft/Sec



Up to 4800 square feet of material can ship on one truckload.

