



# Streambank Stabilization Alternatives Another Choice to Consider

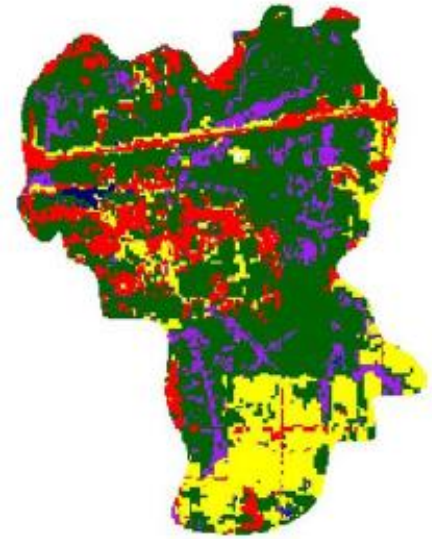
Wade Burcham | October 30, 2020

Geosyntec<sup>®</sup>  
consultants

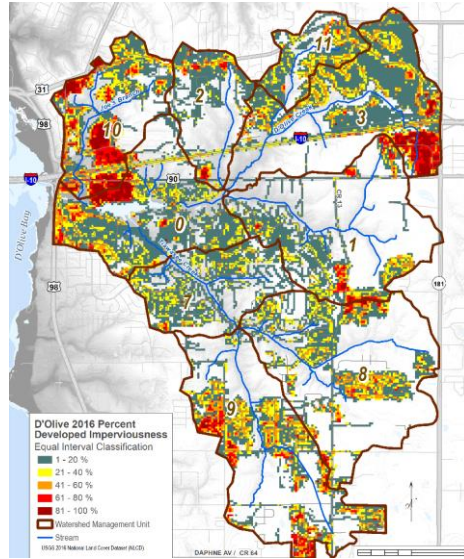




# The Reality of Development



1974



2016

2000



2017















# The Reality of Invasive Species





United States



Chattahoochee River

Joe's Branch

Tombigbee River

# Ideally we want to:



- Provide Watershed and Geomorphic Assessments
- Verify design with a Reference Reach
- Provide Natural Channel Design
- Provide Floodplain connectivity
- Provide channel elements that relieve pressure and restore channel processes







- 25' vertical wall on side of river
- 30' horizontally between power structure
- Project had to be stable in 4 months
- Water rafting recreation area
- Massive flows
- Typical soil anchors not an option
- Required Mechanically Stabilized Earth Wall
- Owner preferred wall not look like a wall



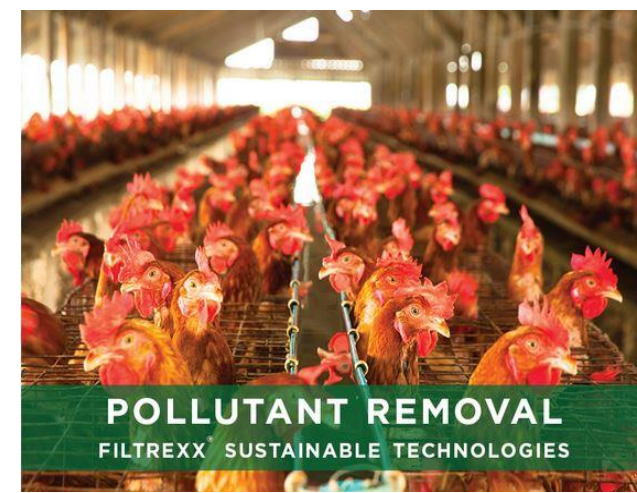
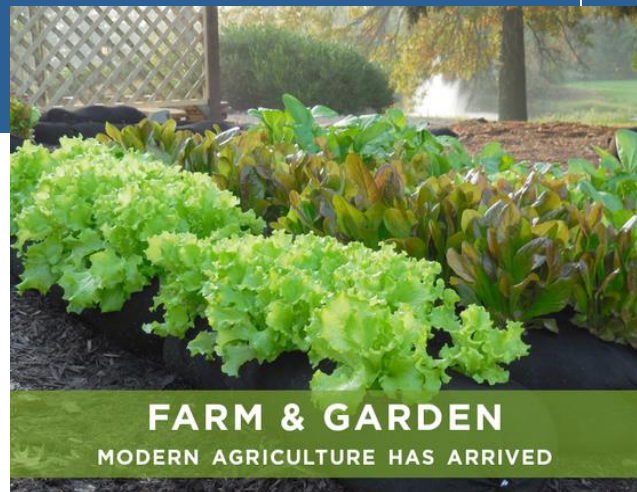
- 30' vertical wall on side of river
- Erosion extended into the foundation
- Time constraints required use of Nationwide Permit



# Proposed Product



GroSoxx<sup>®</sup> is a three dimensional tubular mesh device, filled with Filtrex Growing Media that helps protect land from the ravages of stormwater, providing immediate stabilization and sustained vegetative growth. Used in low impact development (LID) projects.

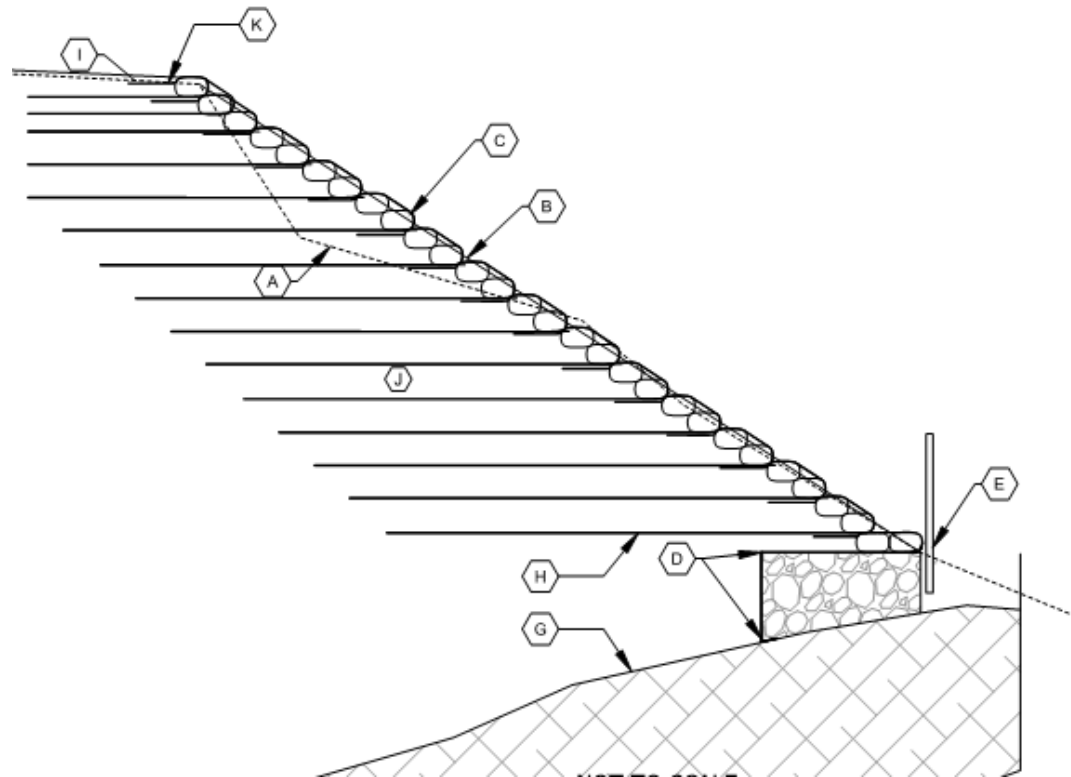








# MSE Wall with Filtrexx Bags







## Preconstruction



Two months post construction







Five Months Post Construction



Clean Water Consultants





## Carbon Footprint Reduction<sup>2</sup>

There are three key ways in which compost-based LivingWalls can significantly lower a site's carbon footprint:

- Methane avoidance resulting from diverting organics from landfills
- Carbon sequestration by permanent vegetation
- Carbon sequestration by storing carbon in the soil

This GreenLoxx MSE LivingWall on the Chattahoochee River has the following impact:

- 656,000 lbs of Organics Diverted from Landfills
- 1,148,000 lbs of CO<sub>2</sub>e Methane Avoidance
- 205 lbs of CO<sub>2</sub> Sequestered in Vegetation
- 110,700 lbs of CO<sub>2</sub> Sequestered in Soil

This is the equivalent of offsetting the greenhouse gas emissions of 121 passenger vehicles driven for one year.<sup>1</sup>









- 6' vertical wall on side of stream
- Needed a quick fix
- High flows and shear stresses
- Could have zero disturbance
- ¼ mile from roadway
- Required duck bill anchors

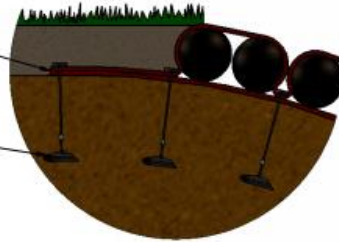




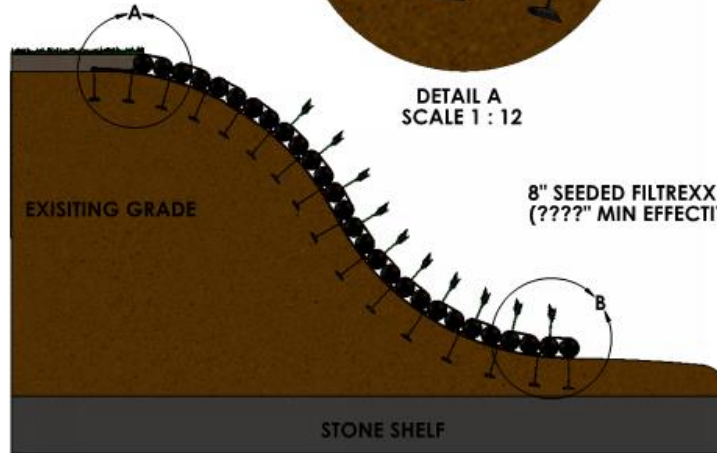
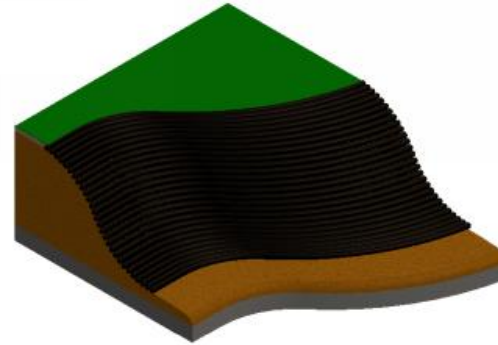
## FILTREXX™ REINFORCED LIVINGWALL™

CHECKMATE UX 35  
GEOGRID OR EQUIV

DUCKBILL TR 65 ANCHOR  
3' MIN DEPTH

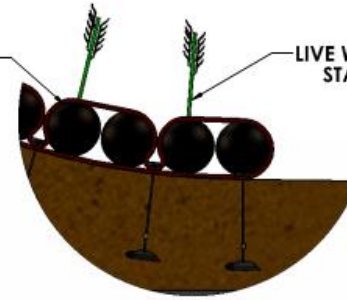


DETAIL A  
SCALE 1 : 12



8" SEEDED FILTREXX FILERSOXX  
(8' MIN EFFECTIVE HEIGHT)

LIVE WILLOW  
STAKES



DETAIL B  
SCALE 1 : 12

NOTES: \_\_\_\_\_



# Three months pre/post installation



# Three years post installation





- Natural Stream Design is preferred.
- Certain situations warrant other design considerations.
- Consider using MSE or Non-MSE Living Walls
- Although not natural, these walls can provide some environmental benefit and effectively control erosion.

# Thanks!

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