



PROJECT CASE STUDY

ShearForce™ 10 Remedies Severe Erosion with Less Cost than Rock RipRap



PROJECT OVERVIEW

Commercial Pondbank Stabilization

Location:

Amazon Distribution Center, Greenwood, IN

Regulatory Oversight:

City of Greenwood MS4

Contractor:

Kelly Landscaping | Pat Kelly 317.800.3969

Product:



BACKGROUND:

A new 81-acre Amazon distribution center in Greenwood, IN, just south of Indianapolis, was constructed in 2019. Site work included four retention ponds ranging from 1 to 6 acres in size to retain stormwater, sediment, and other pollutants on-site. After five years of exposure to heavy rainfall and highly variable water levels, the 3:1 sloped pond banks were severely eroded, causing excess sediment discharge into the basins. This sediment loading also threatened the quality of water discharged from the ponds at peak levels.

To address aesthetic issues, safety hazards, long-term maintenance costs, and loss of storage capacity, Amazon required an immediately effective, long-term armoring solution. Working with City of Greenwood stormwater officials, both hard armor (rock riprap) and soft armor (reinforced vegetation) options were evaluated.

Pre-Install:

Amazon Distribution Center Retention Pond with Erosion

After reviewing proposals for InstaTurf ShearForce10 and Rock Riprap, Amazon chose the lower-cost, easier-to-maintain ShearForce10 option, saving nearly \$80,000.



SOLUTION:

Amazon contacted Pat Kelly of Kelly Landscaping to provide proposals for either large rock riprap or a permanent erosion control mat with grass seed to armor approximately 10,000 linear feet of shoreline. Drawing on prior experience with the InstaTurf ShearForce10 hybrid-turf instant armor mat for pond bank protection, Pat recommended this innovative solution for the project. An on-site consultation with Cap Boso of Ferguson Waterworks, the local InstaTurf distributor in Indianapolis, further confirmed ShearForce10 as the most effective vegetative option for long-term armoring of the banks.

Kelly Landscaping submitted bids for both rock riprap and InstaTurf ShearForce10 installation, as requested. Due to the proximity of the facility's security fence to some pond banks, accessing these areas with the heavy equipment required for over-excavation and rock placement would have been challenging, significantly increasing costs. After reviewing the proposals, Amazon chose the lower-cost, easier-to-maintain ShearForce10 option, saving nearly \$80,000. With approval from the City of Greenwood, Kelly Landscaping moved forward with restoring the pond banks.

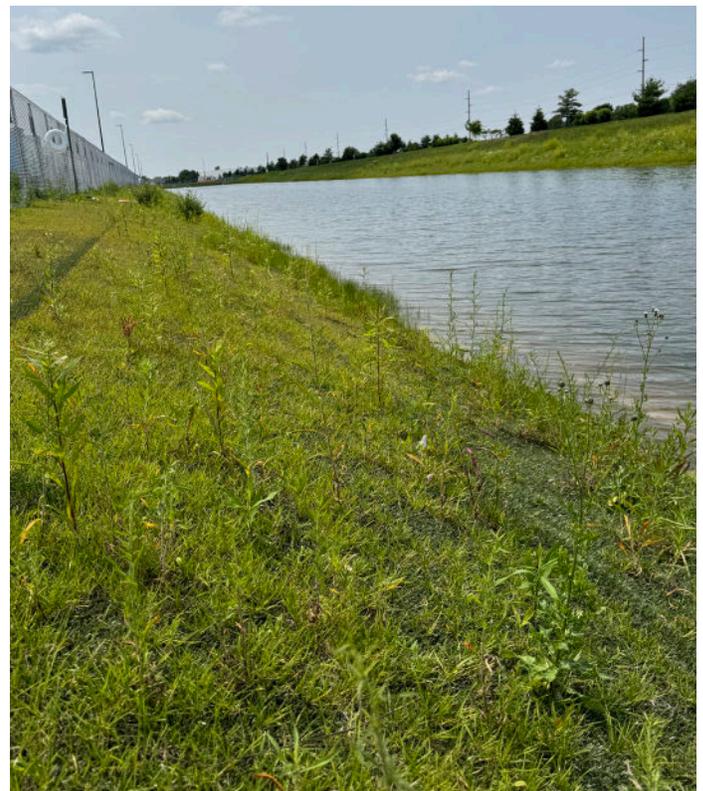
A six-person crew equipped with a small backhoe and Harley rake began work in mid-May 2024, smoothing the bank faces and preparing the soil for seeding and mat installation. Following application of a turf-type seed mix and fertilizer, the 6-foot-wide, 45-foot-long rolls of ShearForce10 were placed along the tops of the banks and unrolled parallel to the waterline, with edges extending 1.5 to 2 feet below the normal water level. All rolls were anchored with 8-inch metal sod staples spaced 1.5 to 2 feet apart, with closer spacing along the waterline and terminal edges.

RESULTS:

Kelly Landscaping noted the speed and ease of ShearForce10 installation compared to traditional rock placement. Amazon valued the immediately green, grass-like appearance along the pond banks. The ShearForce10 mats effectively armored the banks against erosion from runoff and wave action during several spring storm events. Within three weeks of installation, new grass growth was visible through the mat. Despite a transition to an exceptionally dry summer, the ShearForce10 protected the slopes and preserved plant crowns beneath the mat until more favorable growing conditions returned.



ShearForce10 | 3 Weeks After Installation



ShearForce10 | 1-Year Post-Installation

For more information,
contact **Tim Lancaster** at InstaTurf

812.483.1532

tim.lancaster@grassworxllc.com

[insta-turf.com](https://www.insta-turf.com)