

GADOT DITCH CHECK TEST SITE HWY US-1, GA



Problem



Solution



Result

Application: Sediment Ditch Check
Product: High Velocity Ditch Check 24

Site Issues: Ditch check • Channel protection • Low maintenance required • No heavy equipment • Previous failed product

Problem: The installation of a High Velocity Ditch Check along the Jefferson Davis Memorial Highway US-1 in Georgia marks an important development for sediment control in channels. This project aimed to provide an effective and low-maintenance solution to control runoff velocity, minimize sediment transport and promote channel stabilization without the need for heavy equipment or extensive labor. Georgia Department of Transportation evaluated the Silt Saver High Velocity Ditch Check to determine effectiveness resulting in "High Velocity Ditch Check" NPE 2207-2 being classified as "Accepted".

Solution: The High Velocity Ditch Check 24 was installed in December 2022. This prefabricated kit required minimal installation time and no heavy machinery, significantly reducing the installation footprint and time. Four High Velocity Ditch Check 24s replaced five GADOT traditional fabric check dams. January 2023 saw a 1.63" rain event with ten traditional fabric check dams completely failing and releasing the storm water downstream to the test site. The four High Velocity Ditch Checks successfully slowed and controlled the stormwater runoff from the ten failed traditional channel check dams. Even under these extreme conditions, the High Velocity Ditch Check 24s performed as expected, handling a significantly increased volume of storm water during rainfall events. After receiving over 69 in of storm water by the end of December 2023, the High Velocity Ditch Checks had achieved the stated goals of an effective and low-maintenance solution to control runoff velocity, minimize sediment transport and promote channel stabilization without the need for heavy equipment or extensive labor.

Result: The implementation of the High Velocity Ditch Check along the Jefferson Davis Memorial Highway US-1 proved to be a successful intervention. By leveraging innovative design and prefabricated components, the project effectively managed storm water runoff while promoting vegetative establishment and reduced labor costs. This project stands as a model for future initiatives aimed at controlling runoff velocity and stabilizing channels in similar contexts.



PRODUCT HIGHLIGHTS

- High Velocity Ditch Check consists of a high-vis green velocity restrictor fabric with posts and shirt with a wood filled compression tube.
- Together the system prevents scour, undermining, and dissipation of the force of the stormwater and sediment. The restrictor sheet acts as a level spreader to release stormwater in a controlled manner.