



General Introduction

Our company, "Free Water In Bloom", was designed to stop erosion, which is exactly what we do. We have been in business for ten years. Every year our clients are satisfied, and we have gotten all positive feedback. Our company is located in the borough of Danville, PA. We are an experienced group of engineers, and know the area well. We will get the job done, and do it right!

Erosion Explanation

Erosion is the act of wind, water or glaciers moving rocks or sediment to a different location. The main cause of erosion is water. The rushing water wears the creek banks down and takes sediment downstream. Wind blows loose dirt into the water of the creek and causes more sediment. Erosion is the cause of many natural disasters and can be harmful to nature. Enjoy the beauty of Roaring Creek now, because without our company, Roaring Creek will be destroyed and its beauty will never be seen again.

Problem at the Nature Trail Creek

At Roaring Creek, there are many problems, but erosion is the worst of our concerns. The rushing water has washed away much of the creek banks, letting the raging waters take over the area. We are concerned that the creek will be washed away in a few years, and will not be remembered as the beautiful shimmering creek it once was. This could ruin many animal's habitats, and even the way we as humans live.

Our Company's Solution

Our company has located, what we think is the worst eroding area on the creek banks; a spot to put our plan to use. We noticed that the banks under the trees have eroded away, and the trees no longer have the support they need to remain standing. This is where our solution is needed the most.

Our company's solution is to build a low-inclined bank consisting of a mixture of soil and silt with vegetation planted in it. The soil and silt costs approximately \$15.00. We plan on planting "Quick Lawn Grass Seed" in the soil because the roots will help keep the soil compact. A 3-pound bag of this grass seed costs \$4.66, and the plan would require two bags. The grass seed is 96% perennial ryegrass, so it will come back more vigorously each year. The bank will have one hemlock tree planted on each side to further support retention of the soil. We would purchase the trees when they are still saplings so they are cost efficient and easier to manage and transport. Hemlock trees are native to this area and should thrive. The trees will cost approximately \$6.00 each.

We will put down jute netting on the bank, so the water can't wash the grass away once it is grown. Jute is an organic product, giving our plan a natural look, and is not meant to harm the environment. We would be laying it down on about twenty square feet of ground, with a cost of \$1.85 per yard. For our plan we will need approximately 3.5 yards of jute netting. Also, we will place rocks on the edges of the netting to anchor it so it is not washed away by the creek. We have planned to use the rocks that are already down at the creek to cut costs, and to keep the area natural as it was in the beginning.

Cost Breakdown:

Soil and Silt	-	\$15.00
Quick Lawn Grass Seed	-	\$ 9.32
Hemlock Sapplings	-	\$12.00
Jute Netting	-	<u>\$ 6.48</u>
Total Cost of Project	-	\$42.80

Company Conclusion

You will see big improvements to the creek banks if our plan is chosen to be implemented. Right now, if Roaring Creek continues to overflow and erode, it will not be able to be enjoyed as it is today. Our company, "Free Water In Bloom," can prevent this from happening. With our solution and skills, we can overcome erosion and sustain the creek for years to come. We hope you consider our company's plan. You won't be disappointed!