

Willow Creek Streambank Restoration Phase I

Fleetwood Borough, Berks County PA

Project Description: Willow Creek travels through and bisects Fleetwood Community Park as it continues downstream to Maiden Creek, a tributary to the Schuylkill River. This section of Willow Creek at the municipal park has areas of significant soil and bank erosion, with the park losing over 2 feet of stream embankment between 2018 and 2020 and another 3 feet of embankment during a single storm event in July 2023. The soil bank losses reflect Willow Creek reach being a designated impaired stream for siltation. This project was for the installation of streambank protection measures and in-stream flow controls from approved and permitted design plans in 2021..

Project Goals: Phase I streambank improvements include regrading a section of streambank, the use of coir logs, stabilization matting, timber log protection, native plantings and supplemental stabilization through seeding. In addition to bank controls, in-stream measures were also used after the removal of gravel bars that settled in the center of Willow Creek, as they contributed to diverting stream flows to under cut the embankment. In-stream controls included placement of J Hooks and Cross Vanes to re-focus the stream flow to center while also adding favorable aquatic habitat areas with plunge pools.

Project Results: Streambank restoration project was identified in Fleetwood Borough's Pollutant Reduction Plan (PRP) used towards MS4 requirements for sediment and nutrient reduction.

Water Quality	Sediment	Phosphorous
Pollutant Reductions	21,766 lbs/yr (10.88 tons/yr)	32.9 lbs/yr



Before Streambank Restoration (Erosion)



After Streambank Restoration (Regrade, Coirs, Plantings)

Project Costs: \$186,300 Growing Greener, Water Protection Grant

Lessons Learned: Stream projects more susceptible and vulnerable to time of year for construction work

Partners: Flyway Excavating, Inc. (Contractor), Barry Isett & Associates, Inc. (Engineer)

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