Project Team Organization

Research Section

Technical Liaisons

Research Team

County/District Forces

Guidance, implementation.
Research, design, assessment, outreach.
Technical oversight, review, coordination.
Administration, district coordination, project oversight.
The Problem: Channel maintenance at bridges
- Bank erosion and poor flow alignment
- Channel bed scour
- Sediment deposition
- Debris accumulation

Solutions: Countermeasures exist sometimes they are even applied at bridges
Bridge Scour and Stream Instability Countermeasures: Experience, Selection, and Design Guidance-Third Edition

Volume 1
Flow Alteration – Rock Vanes
Flow Alteration – Rock Vanes

ROCK VANE DETAIL
Not to Scale

Bankfull

Bankfull Bench Width Varies

Channel C/L

Embedded Footer Stone

Flow

4oz. Non-Woven Geotextile Fabric and Native Stone Backfill

20'-30'

Crest Stone

Rock Sill Length=8' Min.

Embedded Footer Stone

Vane Arm Length=48

Scour Pool

Flow
Flow Alteration – Cross-Vanes
Two-Stage Channels

Narrow low and intermediate flows for channel stability

Wide flood flows for capacity
Two-Stage Channels
State Route 604 crossing Steele Ditch
Wayne County July 2015
State Route 606 crossing
Tributary to Rocky River East Branch
Medina County October 2014 and July 2015
State Route 412 crossing Fuller Creek
Sandusky County September 15 - 22
State Route 579 crossing Crane Creek
Ottawa County September 2015
State Route 83 crossing Savage Run
Wayne County October 2015
State Route 20 crossing Bean Creek
Fulton County
Directing flow and debris away from pier
Directing flow and debris away from pier
Managing flow during construction
Bank stabilization with Flexamat
Two-stage channel with a floodplain bench
State Route 603 crossing
Tributary to Black Fork Mohican River
Ashland County
Innovation and Cost Savings

Initial Estimates
(WAY 083 and WAY 604)
- ~$35,000 and ~$40,000
- 1.5 and 2 weeks long

Final Cost Estimates
- ~$8,000 and ~$10,000
- 3-4 days
Alternative Stream Channel Maintenance at Bridge Crossings

Ohio Transportation Engineering Conference 2016
October 25, 2016
Columbus Convention Center
Columbus, OH

The Ohio State University
Jon Witter, Dan Mecklenburg

ODOT - Rich Shatzer

EMH&T
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