

Willow Creek Stream Restoration Project

Eaton Township Community Park

Funding Provided by USEPA via the Great Lakes Restoration Initiative



Overview

- \$600,000 grant through GLRI funding to restore 800 LF of Willow Creek and riparian areas within Eaton Twp. Community Park
- Also funded native wetland & riparian plantings along Fortune Ditch within the Margaret Peak Nature Preserve

The Project Was Designed To:

- Restore an active floodplain and create bank-full benches to allow flood storage
- Improve water quality through assimilation of sediment/nutrients during high flows when loading is prevalent
- Create stream habitat & provide stability through installation of riffles, rock toe, and live stakes
- Restore riparian habitat through native plantings

Pre-Construction Conditions

- Floodplain was disconnected from channel



Pre-Construction Conditions Cont.

- Vertical, erosive banks and incised channel

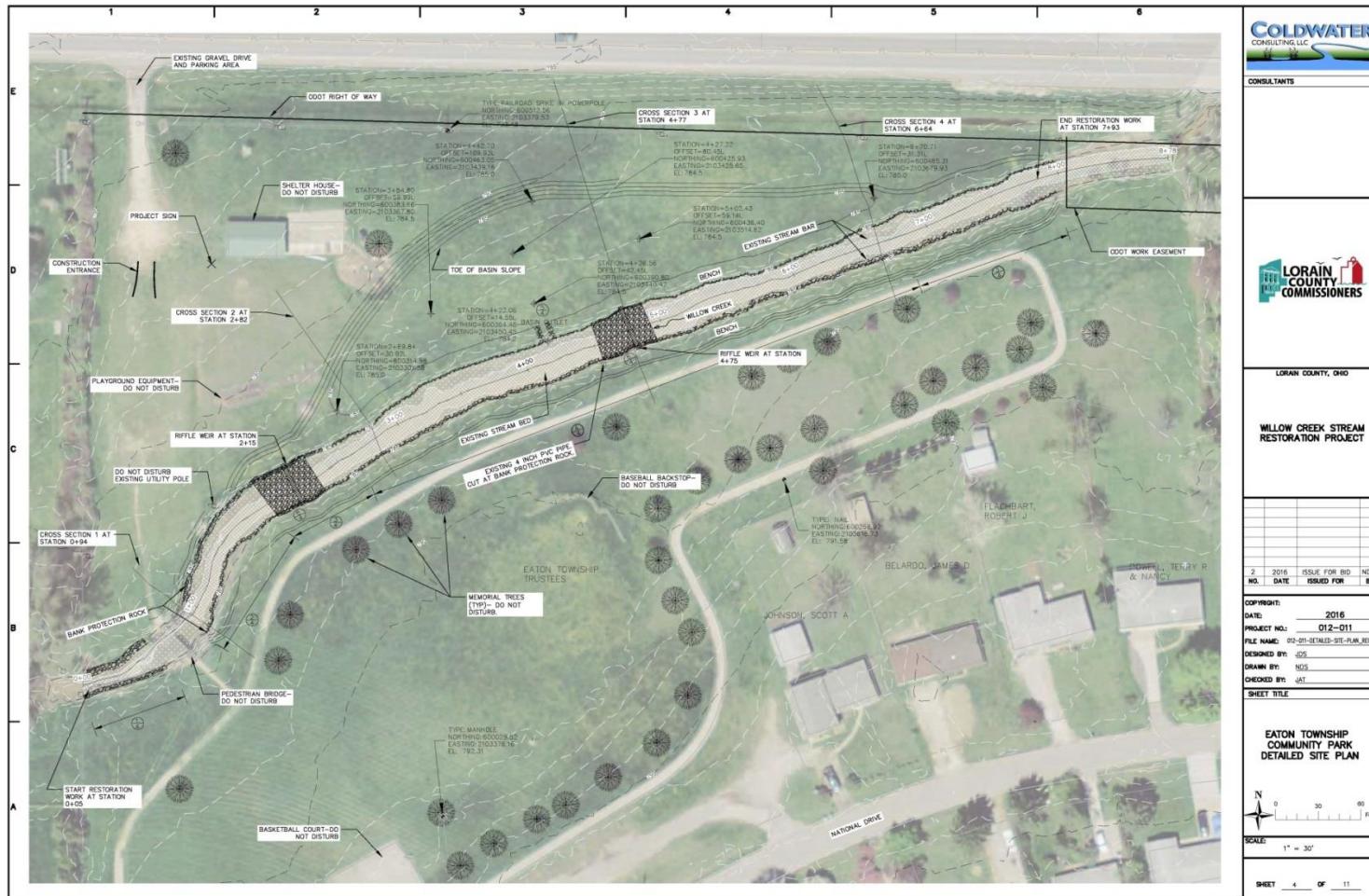


Pre-Construction Conditions Cont.

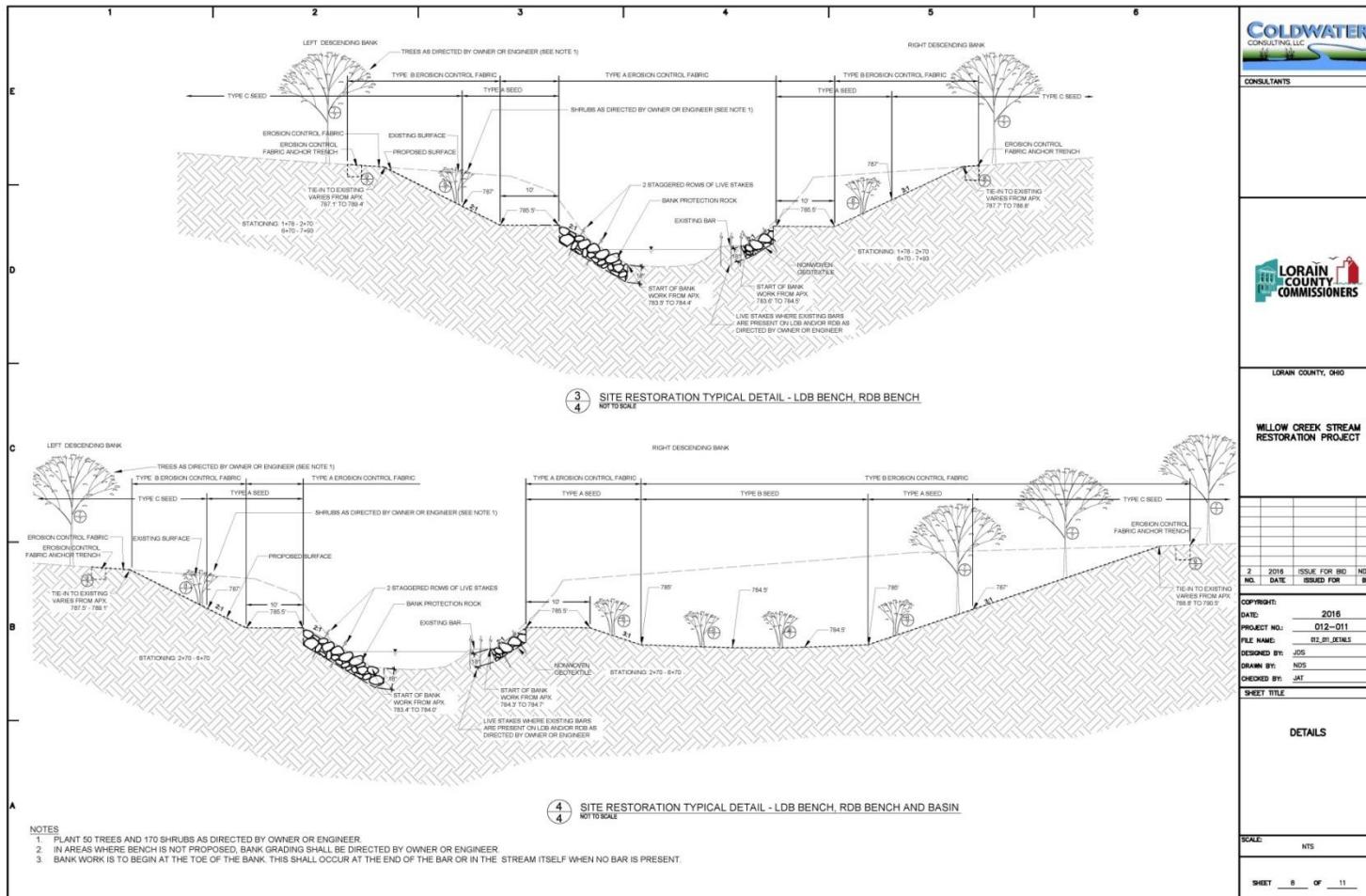
- Absent riparian buffer & in-stream habitat



Construction – Site Plan



Construction - Details



Construction

- Slope grading, bank-full bench, rock toe
 - Discourages erosion, provides storage, increases channel stability



Construction Cont.

- Floodplain excavation – wetland basin
 - Maximizes flood storage, benefits water quality



Construction Cont.

- Riffle installation
 - Provides channel grade control, creates diverse habitat



Construction Cont.

- Native plantings
 - Stabilizes soil, reduces runoff, improves water quality, provides habitat, contributes to aesthetics



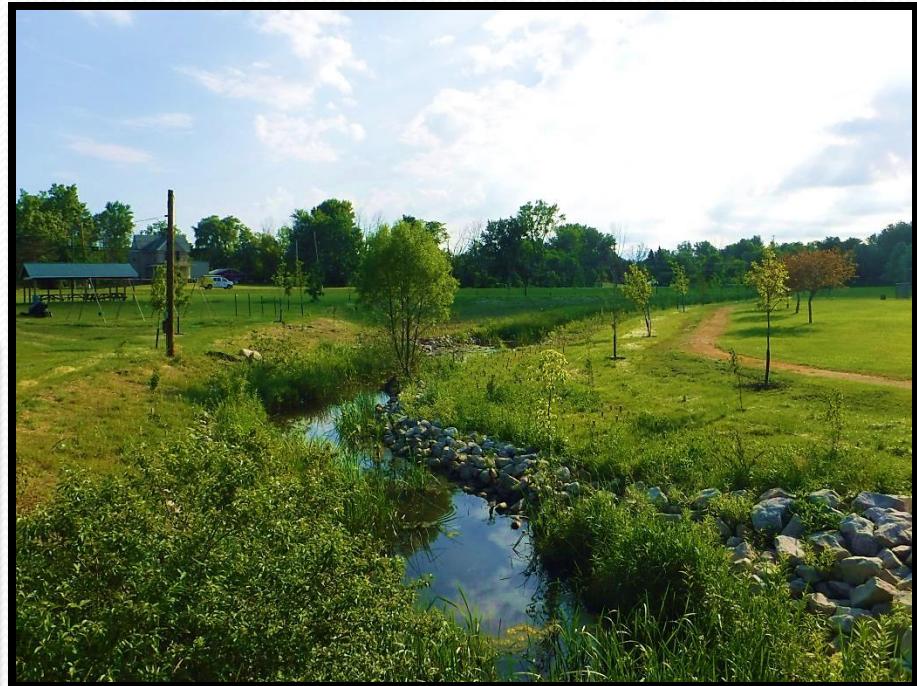
Construction Cont.

- Native plantings cont.
 - Live stakes
 - Willows, dogwoods



Overall

Pre-Construction



Post-Construction

Wetland Basin

Pre-Construction



Post-Construction

Riffle Structures

Pre-Construction



Post-Construction

Vegetation Community

Pre-Construction



Post-Construction

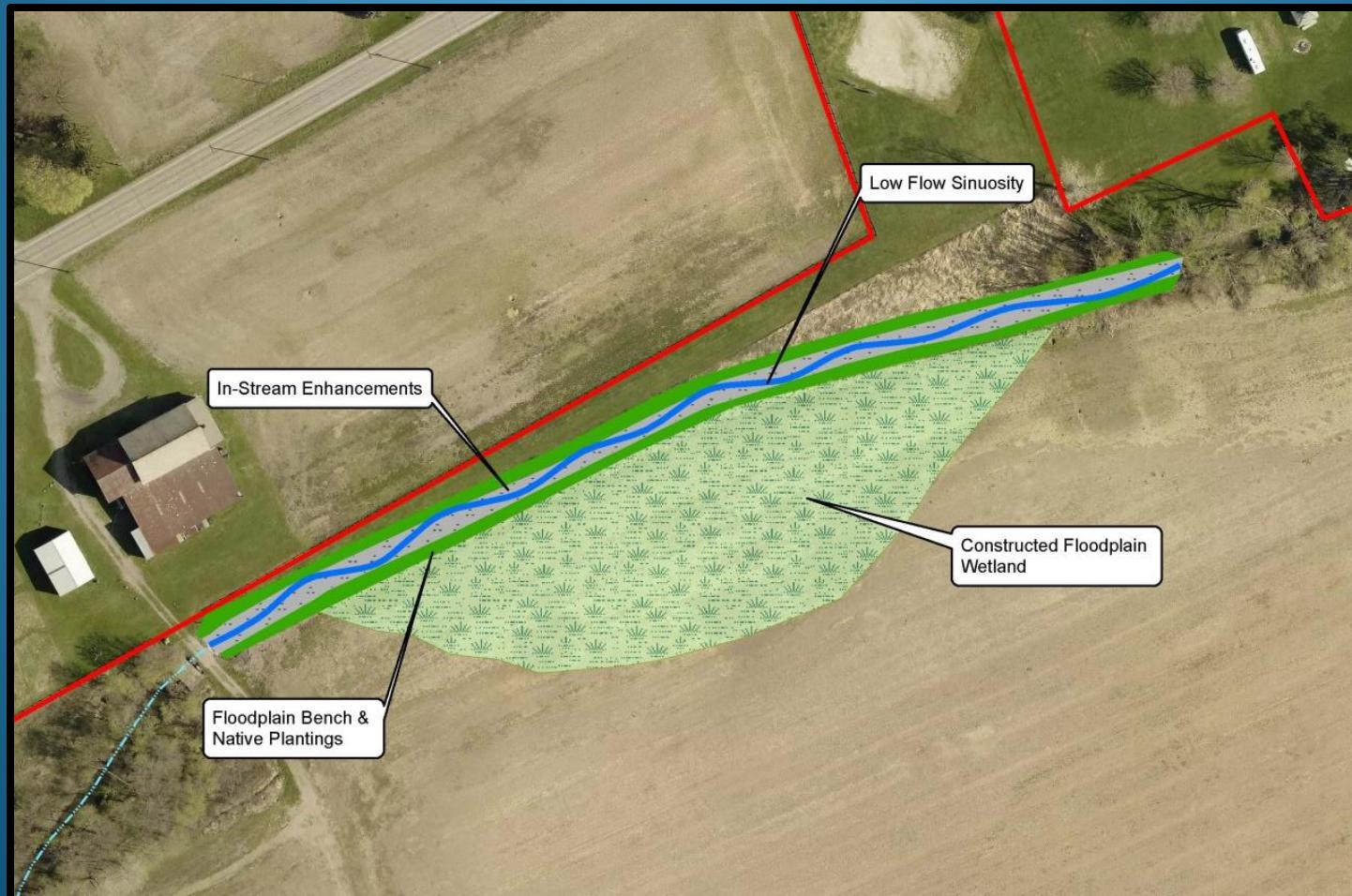
Wildlife

Crayfish exploring newly created habitat



Midland Painted Turtle basking at riffle

Future Restoration Efforts Along Fortune Ditch – Margaret Peak Nature Preserve



Overview

- Additional \$600,000 in funds through an amendment to the current grant
- Project will restore 800 feet of Fortune Ditch and 1.5 acres of riparian wetlands
- Restoring Fortune Ditch with bankfull benches, low flow channel sinuosity, and native riparian plantings

Pre-Construction Conditions

- Vertical, erosive banks and incised channel disconnected from floodplain
- Absent riparian buffer & in-stream habitat



Project Goals

- Provide water quality improvements, especially reduced suspended sediments, in the subwatershed and contribute to Beneficial Use Impairments removal in the Black River
- Beneficial Use Impairments to be improved with this project include: 1) Degradation to Benthos; 2) Degradation of Fish and Wildlife Populations; 3) Loss of Fish and Wildlife Habitat; and 4) Aesthetics.

Questions?

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