



Chicago Metropolitan Agency for Planning

- Project Name:** [Fox River North Watershed Improvement Project](#)
- Grant Recipient (s):** Villages of Carpentersville, East Dundee, West Dundee, Kane County Forest Preserve District, and Kane County
- Project Location:** Kane County Illinois Subwatersheds
- Project Budget:** Total Project Costs - \$1,709,748.50 / 319 Grant - \$2,000,000
- Project Summary:** The purpose of this project was to improve water quality in the Fox River by repairing and preventing streambank erosion and improving habitat along stream corridors. To achieve this goal, environmentally sound bioengineering methods have been used. Critical segments of the Fox River main stem and tributary riparian areas in the Kane County Fox River North watershed were identified and streambank stabilization, habitat restoration, and buffer strip enhancements were implemented.

The installation of bioengineering solutions throughout this project area has led to improved water quality, minimized construction impacts, diversification of riparian environments, reduction of ongoing maintenance requirements, and enhancement of property values. Stabilizing the slope has protected structures, lots, fences, and headwalls from damage or loss caused by slope failure. It has reduced sediment loading and improved water quality. Required maintenance of culverts and other structures was reduced due to a decrease in sediment load.

On this project, solutions included:

- use of vegetated geogrids at locations requiring stabilization of steeper slopes;
- stabilization seed mixes and shrub cuttings to bind the soils;
- use of concrete A-jacks to form a continuous flexible protection at the toe of the slope;
- use of biodegradable coir fiber roll to provide protection and a growing medium for plantings at the toe of the streambank;
- minor regrading of streambanks to reduce the slope gradient;
- use of temporary and permanent erosion control fabrics to protect slopes until seeding and plantings have become established.

The projects included:

South End Park

The Village of West Dundee improved South End Park in the summer of 2002. These improvements involved utilities, ball fields, courts, playgrounds, parking, a bike path and a pedestrian bridge over Sleepy Creek to allow future development on the west side. Access to the river was focused on three areas to be constructed as part of the park improvements: an overlook, a boat ramp for emergency vehicles, and along the pedestrian bridge.

Improvements included A-jacks and regrading along the north bank of the Fox River and planting with a streambank stabilization seed mix. The existing culvert under Third Street was removed and the channel area widened and planted with a variety of rushes and other native vegetation. Water quality benefits will be gained by reducing erosion of the shoreline by stabilizing it, reducing the erosive force of flows at the confluence of Sleepy Creek and the Fox River, and by establishing native vegetation in various areas. The total length of riverbank benefited was 830 feet.



Pre-construction, South End Park
(Looking East)



Post-construction, South End Park
(Looking East)

Sleepy Creek

West of South End Park in the Village of West Dundee, recommended improvements to Sleepy Creek included selective pruning/clearing, debris removal, stabilizing the toe of slope with A-jacks or coir fiber roll and regrading/vegetating the slope. The lower portion of the stream reach was shifted slightly to the south to transition smoothly into the South End Park improvements. Water quality benefits will be realized by reducing the erosion at the toe of slope and by establishing good vegetative cover on the banks. This improvement included 2,300 feet of streambank.



Pre-construction, Sleepy Creek (Looking up Creek)



Post- construction, Sleepy Creek (Looking Up Creek)

No Name Creek

No-Name Creek flows through the Village of East Dundee. The first 640 feet of the channel were addressed in this phase. From the confluence with the Fox River upstream to Water Street, the creek was stabilized by selectively pruning the tree canopy to allow strong vegetative growth of planted stabilization seed mix on the banks. In addition, A-jacks and vegetated geogrid were installed just downstream of the Water Street culvert to protect the banks from high velocity flows.

Between Railroad Street and Water Street, A-jacks and stabilization seed mixes were used to stabilize the banks. In addition, an area along the south bank immediately downstream of Railroad Street was addressed. A modular block retaining wall was constructed, which will improve flow conditions through this reach and minimize the erosion of the streambanks.



Carpenter Creek

The reach of Carpenter Creek (approximately 1600 feet) stabilized in this phase was from the confluence at the Fox River upstream to the Carpentersville Public Works storage yard. The reach was cleared of debris and dead trees, and the tree canopy reduced by selective pruning. Coir fiber roll and A-jacks trenched in the toe of slope and regrading were used to stabilize the banks in this reach where necessary. Concurrently, the Village of Carpentersville implemented various best management practices at the Public Works Facility to reduce impacts to the creek. These included containment of salt dome runoff, relocation of material piles, diversion of flow away from the top of bank, site cleanup and improved maintenance procedures, and education of staff about water quality impacts. Water quality benefits will be realized by reducing the erosion at the toe of slope, by establishing vegetative cover on the banks, and by reducing the pollutants introduced into the stream.



Pre-construction, Carpenter Creek (Looking up creek)



Post-construction Carpenter Creek (Looking up creek)

McNamee Park - The Carpentersville Park Committee has plans to improve McNamee Park in the future. The recommendations for stabilization improvements included selective pruning and tree removal, regrading, and planting of stabilizing grasses and forbs on 900 feet of riverbank.



McNamee Park, South along the East bank of the Fox River

Fox River 1A and 1B East – Downstream of McNamee Park, recommended improvements included debris removal, selective clearing and pruning, regrading, establishment of stabilization seed mix, reintroduction of native species including lizard tail grass and a variety of rushes for 2680 feet of river bank distance of 650 feet.



McNamee Park, South along the East bank of the Fox River

Four Winds Way Creek – On the west side of the Fox River, Four Winds Way Creek flows through Kane County Forest Preserve property to the river. About 985 feet of streambank were stabilized using slope regrading and coir fiber roll. The area was revegetated with selected native species. Armoring of existing grade drops through the reach will aid in maintaining lower velocities in the channel. The upland areas were planted with native prairie seed mix, while

streambank stabilization seeding was utilized on the banks. Selective clearing and plug plantings were performed in the riparian area downstream of the culvert to the Fox River.



Pre-construction, Four Winds Way Creek (Looking down creek)



Post-construction, Four Winds Way Creek (looking down creek)