



# Bee Branch Creek Restoration



## Project Background & Description

The Bee Branch Creek was buried in a storm sewer in the early 1900s. As Dubuque grew, major rainstorms regularly overwhelmed the sewer's capacity. Between 1999 and 2011, there were six Presidential Disaster Declarations due to flash flooding which logged an estimated \$69.8 million in damages.

During significant rain events, stormwater would rush down streets from curb to curb stalling vehicles, displacing manhole covers, and damaging pavement, water mains, and stormwater and sanitary sewers. Watershed residents had more than "just a little water in the basement." Floodwaters inundated water heaters, furnaces, and electrical boxes putting them at risk of electrocution or fire. The Bee Branch Watershed Flood Mitigation Project is a \$227 million multi-phased infrastructure investment to address the severe and frequent flash flooding experienced in the watershed. It has received over \$160 million in state and federal grants and local donations.

The Bee Branch Creek Restoration involved replacing almost one-mile of storm sewer with an open waterway and floodplain that resembles the creek that traversed the area approximately 100 years ago. This "daylighting" of the buried Bee Branch Creek allows stormwater from flash floods to safely move through the area without flooding adjacent properties. During heavy rains, stormwater rises out of the creek and fills the greenspace instead of flooding streets, homes, and businesses. The creek restoration, including the future railroad culverts phase, is just over \$100 million.

## The creek restoration is...

### A stormwater management and disaster prevention project.

- Protecting over 1,300 homes and businesses at risk of flood damage during heavy rains

### An environmental project.

- Restoration of 4,500 feet of a buried creek and its associated floodplain
- Biowalls for filtration and infiltration
- Over 4,000 trees and plantings
- Installation of pervious pavement

### A neighborhood park, outdoor classroom, and tourist attraction.

- 4,500-foot hike/bike trail connects the 26-mile Heritage Trail to the Mississippi River and Mines of Spain trail systems
- Urban orchard and community garden
- Recreational fishing opportunities
- Outdoor amphitheater adjacent to an elementary school
- Play area with slides
- Scenic overlooks

## 2 Phase Project

The Bee Branch Creek Restoration component of the Bee Branch Watershed Flood Mitigation Project is split into two distinct sections.

- Construction of the lower phase began in the fall of 2010 and was finished in November 2011.
- Construction of the upper phase began in June 2015 and was completed in July 2017.
- The City acquired more than 100 properties in order to be able to move forward with the project.



Lower Phase

### Lower Phase

The lower portion of the creek includes a large expanse of open water that wraps around a former industrial site. Located along the Mississippi Flyway, it provides opportunities for bird watching, kayaking, canoing, and urban fishing.

### Upper Phase

Located in Dubuque's North End residential neighborhood, the upper portion of the creek is a narrow stream and landscaped greenspace that accommodates recreational use and neighborhood gatherings. It is home to a multi-use trail, scenic overlooks, an outdoor amphitheater, benches, lighting, rest areas, an urban orchard, and a bioswale boardwalk.



Upper Phase

### The Results

The completed Bee Branch Creek is safely channeling stormwater out of Dubuque's North End neighborhood and is reducing the amount of property damage caused by flash flooding. For example, in the summer of 2017 a rainfall of 4.9" fell in less than 24 hours in Dubuque. The storm resulted in minimal property damage compared to a similar storm in 2002 which resulted in a Presidential Disaster Declaration and more than \$11 million in damage.

### Future Phase: Railroad Culverts

The two sections of the creek are separated by the Canadian Pacific railroad. The installation of large diameter pipes under the railroad yard will allow stormwater to drain more efficiently from the upper creek to the lower creek and 16th St. Detention Basin. This project is scheduled for construction in 2019.

## Funding

The \$107.9 million Bee Branch Creek Restoration Project was funded through a combination of General Obligation Bonds, State Revolving Loan Funds (SRF), grants totaling over \$15 million, generous contributions from local businesses, organizations, and citizens, and City of Dubuque stormwater utility fee revenue.

A State \$2.25 million RECAT grant was awarded for amenities, a state \$3.965 million I-JOBS II grant was awarded for disaster prevention measures, a \$5.9 million forgivable loan was approved for the Upper Bee Branch Creek Restoration through the SRF/EPA "Green Project" program, a \$1.2 million disaster recovery grant was awarded by the EDA, a \$1 million National Scenic Byways grant and a \$100,000 State Recreational Trails grant was secured for project elements associated with extending the hike/bike trail along the creek, a \$940,000 Dubuque Metropolitan Area Transportation Study grant was awarded for the 16th St. Basin Overlook and 22nd St. parking lot, and finally, \$98.5 million from the State Flood Mitigation Program was awarded for the overall Bee Branch Watershed Flood Mitigation Project with \$23.2 million going to the creek restoration.

