# **A NRCS** Natural Resources Conservation Service

# Keeping Dams Safe Protecting People, Property and Natural Resources

The watershed dams built through Public Law 83-566 are important to Wisconsin in many ways. They provide flood control to prime farmland, highways, communities and residences and conserve natural resources.

Wisconsin was chosen in 2000 as a pilot state to rehabilitate several aging watershed dams. Twin Parks Watershed Structure No. 10 is part of this national pilot rehabilitation project. Experience and information gained from this project is being used as other dams are rehabilitated across the nation.

The primary purpose of the repair to Structure 10 is to provide continued flood protection. The completed project extends the life of the dam for 50 years. The repair to the structure meets NRCS and the State of Wisconsin standards for dam safety, allowing it to maintain its status as a class (a), low hazard dam. A flood plain zoning ordinance will be enacted by the county restricting future development in the the breach inundation area downstream of the structure.

> Twin Parks Structure No. 10



# Twin Parks Watershed

Twin Parks Structure 10 is a class (a), low hazard dam located in the northeast part of the Twin Parks Watershed. The aging dam was in need of structural rehabilitation.

The USDA Natural Resources Conservation Service (NRCS) developed a supplemental watershed plan and an environmental assessment which recommended pipe repair and raising the freeboard height of the dam. These repairs provide flood protection to the area, extend the life of the structure and allow the dam to maintain its low hazard status.

Construction project cost: \$72,500

Funding: Sixty-five percent of the project construction cost and 100 percent of the technical assistance costs were provided by NRCS. The remaining cost of repair work was provided by the project sponsor.

Watershed Project Sponsor: Iowa County Land Conservation Department

> Completed repair of Structure No. 10 located in the northeast part of the Twin Parks Watershed in Iowa County.

## **Twin Parks Watershed**

- ♦ Size: 1290 acres
- ♦ Dams: 1
- Project Primary Purpose: Continued flood protection through repair of the pipe separation and raising the top of the dam to meet current NRCS Technical Release (TR-60) freeboard criteria. The top elevation of the dam will be raised thus extending the life of the structure by 50 years. Iowa County will adopt a flood plain zoning ordinance prohibiting future development in the breach inundation area of the dam. The dam classification would remain as class (a) low hazard.
- History: Structure 10 was completed in 1966, and was designed for a 50-year life. Frequent flooding of agricultural lands, roads and bridges were the most urgent problems in need of correction.

### Wisconsin Watershed Program

Eighty-seven small flood control dams have been built in Wisconsin through the Watershed Protection and Flood Control Act of 1954 (Public Law 83-566). Most of these dams were built from the mid-1950's through the 1980's. These dams provide flood control to prime farmland, highways, and communities. They are an integral part of the communities and benefit people's lives every day.

### Wisconsin Rehabilitation Needs

- Over thirteen dams in the state have deteriorating components, including pipe separations or cracked concrete pipe supports.
- Over 20 dams are known to be built in rock formations that have fractured bedrock, a condition that led to a failure of a dam in 1978 and 2000.
- Increased hazards have been created downstream from more than 20 dams due to home development in or near the floodplains.
- Structural components like slide gates and principal spillway pipes have deteriorated.
- Sedimentation has reduced flood storage capacity in some structures.

National Rehabilitation Needs



Location of dams that are over 30 years old.

- Since 1948 over 11,000 small flood control dams have been built in 2,000 watersheds in 47 states.
- Many of these earlier constructed dams were designed for a 50-year life expectancy. Over one-half of the dams are over 30 years old.
- Today, many of these older dams need rehabilitation. Concrete and metal used in the principal spillways have deteriorated and in some situations public safety and health are at risk.
- Over the next five years it is anticipated that NRCS will receive 900 sponsor requests requiring 1,500 watershed assessments resulting in 700 watershed plans.
- There are currently 110 watershed rehabilitation projects in the Nation.

For additional information about this rehabilitation project contact the USDA Natural Resources Conservation Service, 8030 Excelsior Drive, Suite 200, Madison, Wisconsin, 53717, (608) 662-4422.

Information about pilot rehabilitation projects in other states and about other issues related to aging watershed dams is available at the NRCS national web site (www.nrcs.usda.gov). Click on Programs then Watershed Rehabilitation

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