



**US Army Corps
of Engineers®**
St. Paul District

Appendix K: Environmental

Fargo Moorhead Metropolitan Area
Flood Risk Management Project

**Oxbow, Hickson, Bakke Ring Levee Phase
WP-43B**

Engineering and Design Phase

P2#

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Appendix K: Environmental

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ATTACHMENTS

Additional information will be provided in future submittals.

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Appendix K: Environmental

K.1 SUMMARY OF IMPACTS

Impacts identified in the 2011 Fargo-Moorhead Metropolitan Area Flood Risk Management Feasibility Report and Environmental Impact Statement and the Supplemental Environmental Assessment July 2013 includes impacts to aquatic habitat, fish passage and connectivity, floodplain forest, wetland resources, and cultural resources.

K.1.1 Aquatic Habitat

There was no aquatic habitat impacts identified for the Oxbow, Hickson, Bakke Ring Levee project.

K.1.2 Fish Passage and Connectivity

There was no aquatic habitat impacts identified for the Oxbow, Hickson, Bakke Ring Levee project.

K.1.3 Floodplain Forest

The overall project will result in a loss of 143 acres of forested land consisting of floodplain forest, shelterbelts, and small pockets of trees around farmsteads. Twelve acres of the 143 acres will be impacted as a result of constructing the Oxbow, Hickson, Bakke Ring levee.

K.1.4 Wetlands

Wetlands delineation has recently been completed. Note: these numbers are for the entire Fargo-Moorhead Project, not specific to OHB.

Wetland Type	Acres
Open Water	0.69
Seasonally Flooded Basin	1476.97
Shallow Marsh	106.38
Shrub-Carr	1.32
Wet Meadow	119.85
Total Acres	1705.20

In general, the majority of the wetlands impacted are low functioning farmed, seasonally flooded type.

K.1.5 Cultural Resources

Phase 1 cultural resource surveys have been ongoing for the entire project area. Areas where Phase 2 testing and evaluation will be needed have been identified and will continue to be identified as the Phase 1 surveys are completed. The Phase 1 cultural resources survey of the Oxbow-Hickson-Bakke ring levee footprint and related areas was conducted in October-November 2013. At this time no areas have been identified that require Phase 2 testing for the Oxbow, Hickson, Bakke project.

K.2 OVERALL MITIGATION FEATURES

K.2.1 Aquatic Habitat Mitigation Features

None required for the project.

K.2.2 Fish Passage and Connectivity

None required for this project.

K.2.3 Floodplain Forest

Mitigation to offset the impacts to floodplain forest for the Oxbow, Hickson, Bakke Ring Levee includes converting 24 acres of floodplain farmland or pastured land into floodplain forest.

K.2.4 Wetlands

Various wetland mitigation plans are being evaluated. This is being done collaboratively with the USACE Omaha District Regulatory staff to ensure that the right amount of wetland mitigation is accomplished.

K.2.5 Cultural

Cultural resources mitigation for each Reach must be completed prior to the start of construction for that Reach. In addition monitoring by a professional archeologist will be required during construction in select reaches of the project. Cultural resources monitoring will be required during construction and earthwork of the eastern portion of the Oxbow-Hickson-Bakke ring levee within 328 feet (100 meters) of the top of the riverbank of the Red River and any oxbow thereof.

K.3 WP-43B MITIGATION FEATURES

The environmental consideration for mitigation for this Ring Levee includes planting of floodplain forest and wetland mitigation.

K.3.1 Wetland Planting Guidelines

Additional information will be provided in future submittals

K.4 CULTURAL RESOURCES

The Phase 1 cultural resources survey was conducted by URS archeologists in October-November 2013. Deep testing for buried archeological sites was also conducted at this time. In addition, an inventory of the built environment (buildings, structures, linear features) was conducted.

One prehistoric isolated artifact (FM19-2-IF), two historic debris scatters (FM19-3, FM15-2) and fifteen historic isolated artifacts (FM15-3-IF through FM15-17-IF) were recorded in the Oxbow-Hickson-Bakke project area. None of these archeological resources will require Phase 2 testing.

The previously reported locations of the Hickson Railroad Station (site lead 32CSX4) and the Hickson Milwaukee Station (site lead 32CSX200) were checked for cultural resources, but no remains of either were found. The Hickson Dam (32CS5096) on the Red River had been previously recorded in 2010 and recommended as eligible to the National Register of Historic Places under criterion A, association with significant historic events, due to its construction as one of four dams constructed in 1937 by the Works Progress Administration to provide a reliable supply of water to the cities of Fargo, North Dakota and Moorhead, Minnesota. The Hickson Dam, also known as Fargo Dam #3, will not be affected by the proposed ring levee project.

The previously recorded linear resource sites of County Road 81 (32CS2657) (the former Meridian Highway and North Dakota Highway 1) and the Hickson RR Crossing (32CS2655) (at Hwy 81 and the old grade of the Chicago, St. Paul, and Pacific Railroad) were updated. The National Register of Historic Places eligibility status of these two linear resources in the Oxbow-Hickson-Bakke project area is unknown at the present time.

Finally, an inventory of the buildings in the Oxbow-Hickson-Bakke project area was conducted to determine if any were 50 years old or older. At this time, no buildings have been identified as needing Phase 2 evaluation of their eligibility to the National Register of Historic Places.

K.5 ENVIRONMENTAL SURVEYS AND MONITORING

Raptor surveys were conducted by the Corps and the USFWS during the spring of 2013. Surveys will be conducted each spring prior to construction of the Ring Levee.

Based on the cultural resources programmatic agreement, any project excavation within 100 meters (328 feet) of any river should be monitored by a qualified professional archeologist.

K.6 NEPA COMPLIANCE

The proposed plan for the diversion channel was discussed in the 2011 Fargo-Moorhead Metropolitan Area Flood Risk Management Final Feasibility Report and Environmental Impact Statement. A supplemental environmental assessment and supplemental 404(b)1 analysis was prepared in July 2013 to address changes that were made since the 2011 EIS, to include constructing a Ring Levee around the communities of Oxbow, Hickson, and Bakke.