

Nishnabotna River and Main Ditch 6, at Hamburg, Iowa - PWI No. 091656

Omaha District

Congressional District: IA-4

2. Authority: Section 205, Flood Control Act of 1948, as amended; flood damage prevention.

3. Location: Nishnabotna River and Main Ditch 6 at Hamburg, Iowa. Fremont County, 40 miles south-southeast of Omaha, Nebraska. A location map is enclosed.

4. Problems: There are two potential sources of flooding at Hamburg, not including the Missouri River. Historically, the Nishnabotna River has caused significant flooding in Hamburg and the surrounding farmland area. The flood of record at Hamburg occurred in June 1947. Since 1947, the surrounding farmlands have experienced flooding; however, the city has not because of the Federal levee constructed that year. In September 1972, flood waters were within approximately 2 feet of overtopping the Federal levee at Hamburg. Consequently, the levee was raised in 1974 because it was determined at the time that the design height does not contain the 100-year flood with adequate freeboard. The level of protection provided by the Nishnabotna River levee is currently estimated to be about the 15-year with 3 feet of freeboard, or the 100-year flood with no freeboard.

Since 1947, the only source of actual floodwater in Hamburg, other than local runoff, has been Main Ditch No. 6. Lowland flooding from this ditch occurs in the rural areas almost every year. Main Ditch No. 6 tends to flood when the gated outlet structure, located at the end of the ditch near the confluence with the Nishnabotna River, is closed for a long period of time. High river stages on the Nishnabotna River usually necessitate closing the gates to prevent this water from backing up Main Ditch No. 6. There are spoil bank levees along the ditch. However, several significant flood events have breached or failed these levees causing damage to the city, most recently during the summer of 1993. Currently, the existing spoil bank levees would fail with approximately the 1-year flood event.

The total estimated annual damages for Hamburg is \$144,600, of which \$119,300 is from Main Ditch 6 and \$25,300 is from the Nishnabotna River. The floods from Main Ditch 6 were considered to be noncoincidental with floods from the Nishnabotna River. Currently, the City participates in the National Flood Insurance Program.

5. Alternative Plans Considered: Modification of the existing Nishnabotna River levee to provide 100-year protection with freeboard and a levee along Main Ditch No. 6 to provide 100-year protection with freeboard and various other levels of protection were evaluated in the feasibility study. The feasibility study was completed in October 1996.

6. Description of Recommended Plan:

a. Description: The recommended and selected plan determined in the feasibility investigations is the construction of a levee approximately 8,300 feet in length along the left bank of Main Ditch No. 6. A range of economically feasible plans were identified from which the City selected and is supported by the Corps. This plan is referenced as the 911.0 m.s.l. plan providing protection from Main Ditch 6. Selection of a levee height was constrained by the elevation of the Burlington Northern Santa Fe (BNSF) Railroad mainline tracks. Top of levee has an accedence equivalent to the 300-year event. A 46 percent reliability passing 500-year event.

b. NED Plan: The feasibility study determined the NED plan to be a levee constructed along Main Ditch 6 with the levee top, referenced as 911.5 m.s.l., having an accedence equivalent to the 520-year event and a 67 percent reliability of passing the 500 event. The selected plan is a half foot lower in elevation and has a lower cost.

7. Views of Sponsor: The City of Hamburg strongly supports the flood control plan for Main Ditch 6. It provided cost-shared funds to perform the feasibility study and has established bonding for their funding of the project. Further, they obtained a Community Development Block Grant (CDBG) to help fund this project.

8. Views of Federal, State, and Regional Agencies: An economically feasible and environmentally acceptable plan was identified and selected by the non-Federal sponsor. This plan has the support of the Federal government. It also has the support of the Iowa Department of Natural Resources, Natural Resources Conservation Service, U.S. Fish and Wildlife Service as well as the Federal Emergency Management Agency. The Iowa Department of Transportation and the Missouri Department of Transportation concur with the project.

9. Status of NEPA Document: An environmental assessment (EA) was performed and is presented within the feasibility study=s Detailed Project Report (DPR). No significant environmental or cultural effects were identified.

10. Significant Effects: The FEMA 100-year flood plain zoning will remain because it was not economically feasible to raise the existing Nishnabotna River levee due to continuing siltation problems. However, the frequent flooding events will be eliminated from Main Ditch 6.

11. Implementation Schedule:

a. Time from project approval to contract award: 4 months

b. Contract Award Date: 24 Apr 98

c. Estimated construction period: 7 months

12. Supplemental Information: The City has an easement with BNSF railroad to allow the levee intersect at its tracks. Also, the railroad has raised its mainline track to match the top elevation of the new levee. Both the Iowa and Missouri DOTs have approved levee project features which involve structural modification of their infrastructure. A wetlands mitigation plan will be implemented near the levee alignment to remedy .02 acres.