

# **APPENDIX F**

## **Floodplain Assessment (Mississippi River)**

## Appendix F – Floodplain Assessment

The Highway 169 improvements between Elk River and Zimmerman will cause an encroachment upon the Mississippi River. The encroachment is created by the proposed mainline Highway 169 bridge and associated Highway 169 bypass lane bridge that allows traffic to merge on to southbound or northbound Highway 10. The proposed bridges span most of the floodplain and corresponding floodway; however, encroachments will occur with the proposed bridge abutments, approaches and piers. The following National Flood Insurance Program Flood Insurance Rate Map listed in Table F-1 were examined for determination of floodplain impacts.

**TABLE F-1  
FLOOD INSURANCE RATE MAPS**

Map Name	Map Number	Communities Contained
Sherburne County, MN and Incorporated Areas	27141C0395E	Elk River
City of Otsego, MN Wright County	2707470002A	Otsego

The project will create a transverse encroachment within the floodplain of the Mississippi River of 620 feet. Transverse encroachments represent crossings of streams, rivers, lakes, etc. at angles greater than or equal to 30 degrees. Figure 7A, Appendix A displays the area of the transverse and longitudinal impact.

Analysis of the floodplain impacts that would potentially occur from the Highway 169 improvements was performed in accordance with Presidential Executive Order – 11988, addressing the following four areas:

- **Area 1: No significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community’s only evacuation route.**

The proposed Highway 169 bridge crossing over the Mississippi River and corresponding approaches will be designed to provide 100-year flood protection. Within the vicinity of the proposed river crossing, the 100-year flood elevation is approximately 863 feet. The minimum elevation of the proposed Highway 169 roadway profile located within the delineated floodplain is approximately 875 feet which is a difference of approximately 12 feet.

- **Area 2: There is no significant impact on natural and beneficial floodplain values.**

Floodplain impacts, both beneficial and adverse, will occur to the Mississippi River as a result of the proposed project.

A. No fisheries impacts are anticipated.

- B. The new bridge structures will not increase the flow velocities in the river. Therefore, fish movements should not be affected.
- C. The bridge will be designed to accommodate canoe and recreation boat traffic during periods of normal river flows.
- D. Wetlands will be impacted by the Highway 169 bypass lane bridge.
- E. Appropriate turf establishment and erosion control measures will be used.

- **Area 3: There is no significant increased risk of flooding.**

There will be no increased risk of flooding as a result of the proposed project. Design of the proposed bridge crossing the Mississippi River will be done such that the existing water surface profile is maintained. During final design of the proposed bridge, a detailed hydraulic analysis, hydraulic memorandum and risk assessment will be completed.

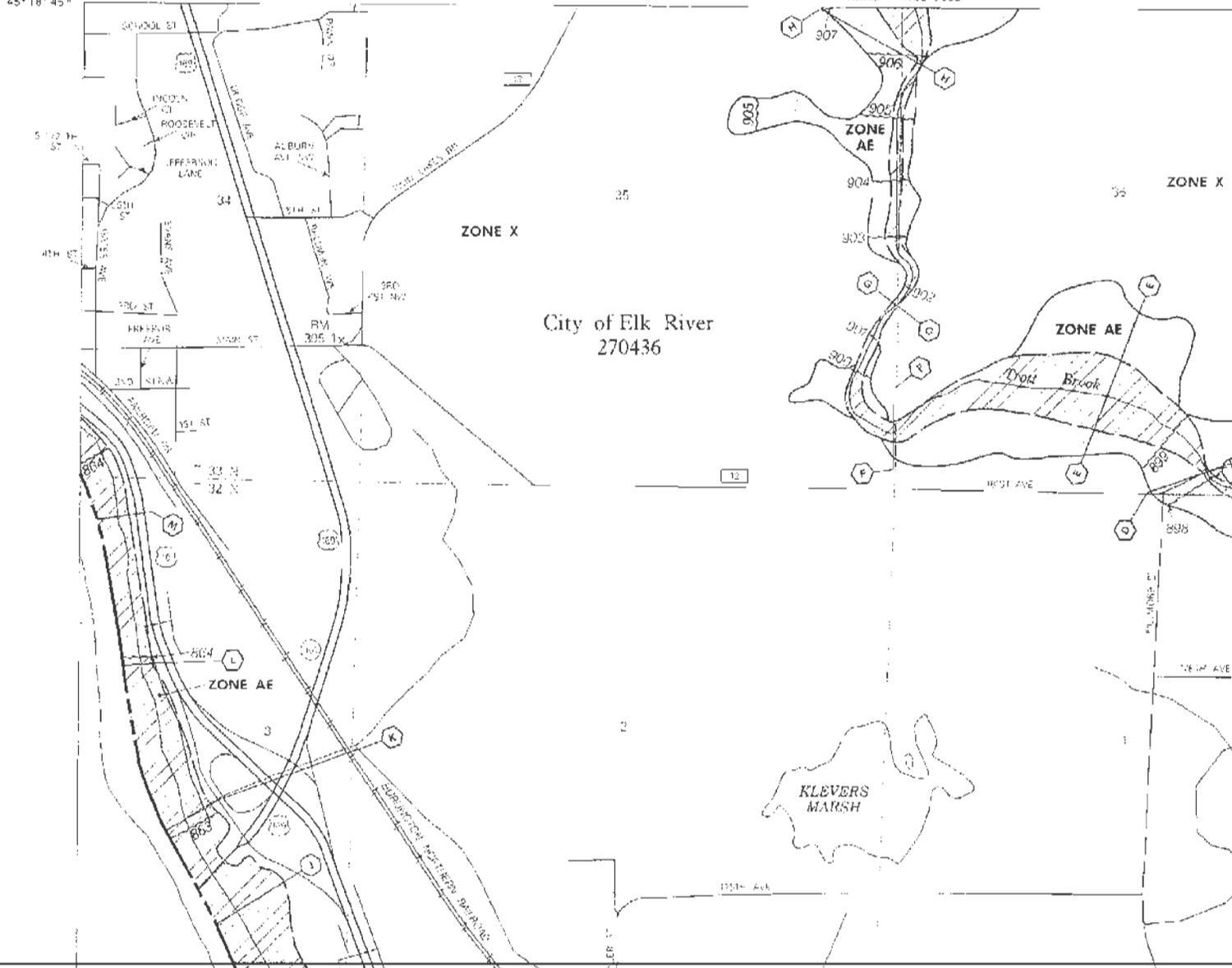
- **Area 4: The project will not support and/or result in incompatible floodplain development.**

No incompatible floodplain development will result from the proposed project, as the project does not provide additional access to the floodplain areas. Sherburne County and Cities of Elk River and Otsego are members of the National Flood Insurance Program and have floodplain ordinances that restrict development within designated floodplains. Each ordinance is in compliance with the MnDNR floodplain management guidelines.

93° 33' 45"  
45° 18' 45"



APPROXIMATE SCALE  
0 100 FEET



**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
SHERBURNE COUNTY,  
MINNESOTA  
AND INCORPORATED AREAS

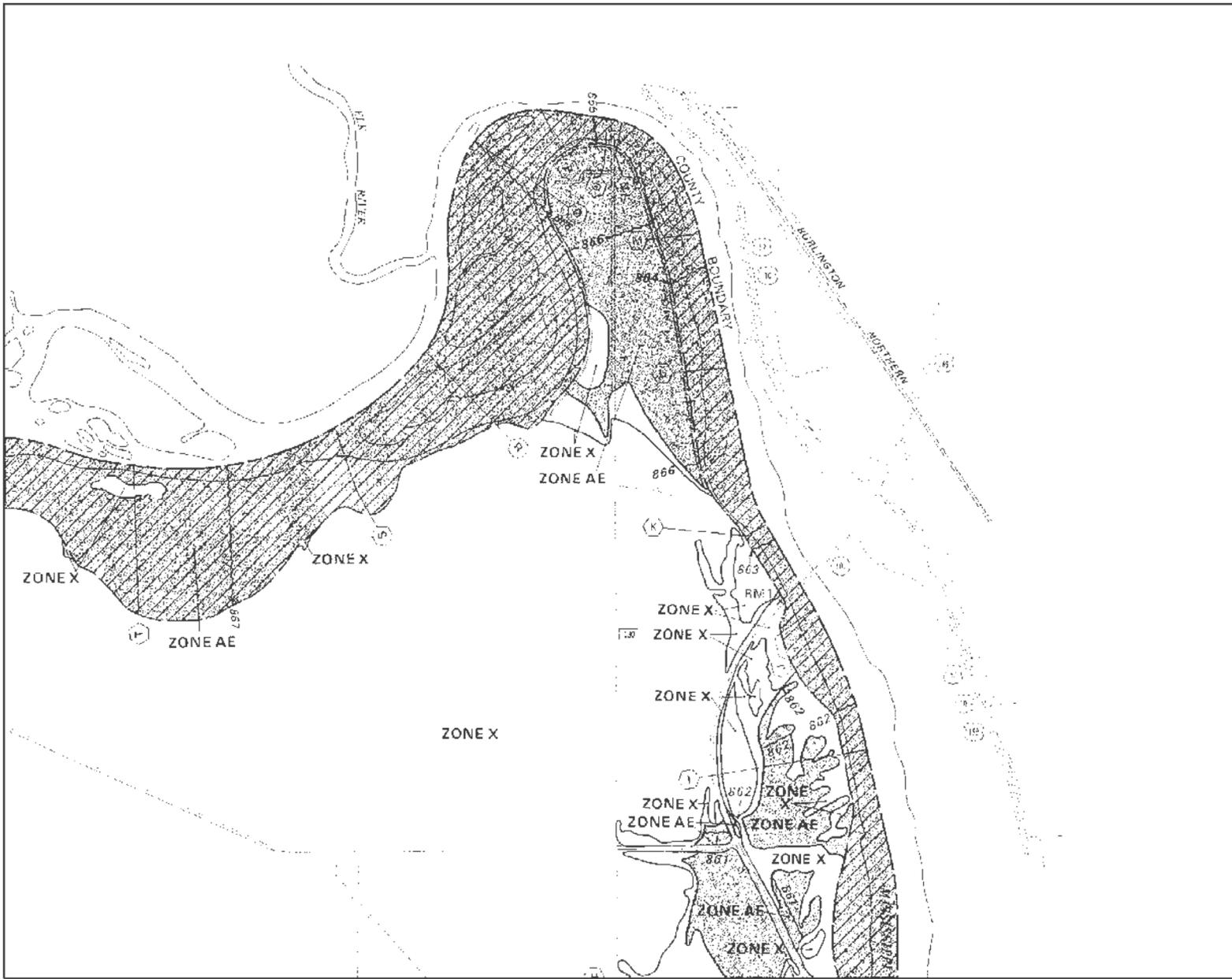
**PANEL 395 OF 410**  
BEST MAP UNDER FOR PANELS NOT PRINTED  
DATE: 11/15/99  
SCALE: CITY BLOCKS 24 IN. 1/2 IN.  
1/4 IN. 1/8 IN.

MAP NUMBER  
**27141G0395 E**  
EFFECTIVE DATE:  
**MAY 4, 2000**



Federal Emergency Management Agency

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APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

CITY OF  
OTSEGO,  
MINNESOTA  
WRIGHT COUNTY

PANEL 2 OF 4  
(SEE PANEL 1 FOR DETAILS NOT SHOWN)

COMMUNITY-PANEL NUMBER:  
270747 0002 A  
MAP REVISED:  
SEPTEMBER 30, 1992



Federal Emergency Management Agency

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