

Ebner Coulee Floodway Remapping Study

October 2017

Fact Sheet



The Ebner Coulee watershed (as delineated for this study) is shown above along with the study limits.

Hydrologic Analysis

Estimating how much water is flowing down the Coulee.

The first study task of the study was to develop an estimate of the peak discharge rates for Ebner Coulee utilizing the regional regression equations. This method is based on equations developed by the USGS to estimate the flood discharge rates based on watershed characteristics and comparing those characteristics to those of gaged

streams in which data exists for peak flow rate estimation. In contrast, the peak flow rates utilized for the FEMA flood mapping of Ebner Coulee were developed with computer based rainfall-runoff modeling. This method requires the modeler to input the watershed characteristics and a rainfall event with the model

Project Background

The flooding associated with Ebner Coulee has been analyzed multiple times since the late 1970s. Various methods have been employed in an effort to develop a better estimate and understanding of the flooding resulting from rainfall events within the Ebner Coulee watershed.

This study incorporates a methodology developed by the US Geologic Survey (USGS) to estimate the magnitude of runoff from the watershed combined with the most up to date version of software developed by the US Army Corps of Engineers (USACE) for estimating the resulting flooding.

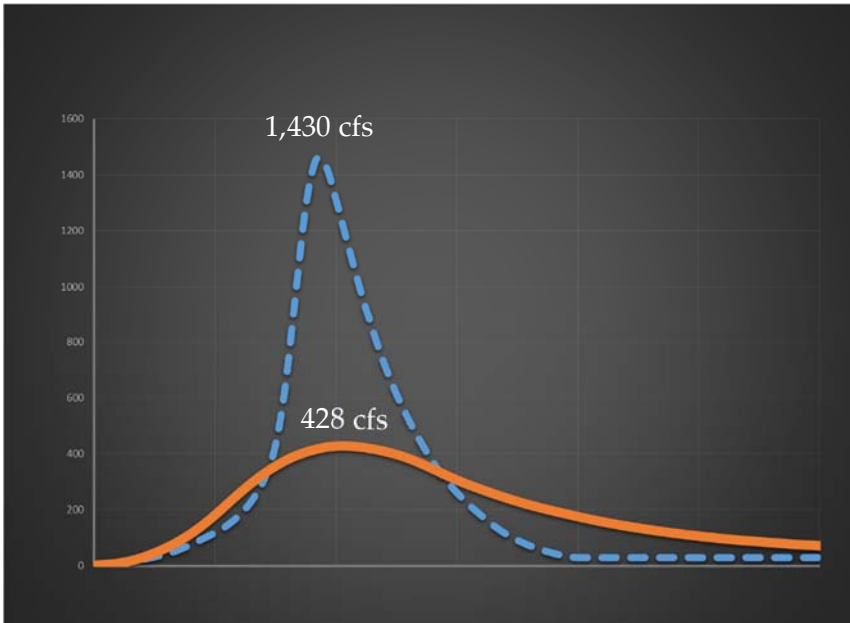
This new methodology could be used to support a change to the FEMA Flood Insurance Rate Map (FIRM).

output being the estimated flood discharge rate.



Building a Better World
for All of Us®

Engineers | Architects | Planners | Scientists



The calculated flood discharge rates from this study meet the FEMA requirements for being statistically significant for a map revision. However without "measureable" scientific data it is difficult to defend one method of developing the discharge rates over the other.

Figure depicting the 1-percent probability peak discharge rates for Ebner Coulee. (FEMA-blue line; USGS-orange line)

Flooding Analysis

Estimating the extents of flooding for the amount of water flowing through the system.

The USACE software HEC-RAS (two-dimensional capabilities) was utilized to estimate the locations in which floodwaters overflow from the Ebner Coulee channel and the resultant flood inundation area.

Potential FIRM Modifications

Potential residential structures removed from the 1-percent floodplain and mandatory flood insurance requirements:

- 25 structures south and east of the channelized portion.
- 27 structures to the north of the East-West channelized portion.



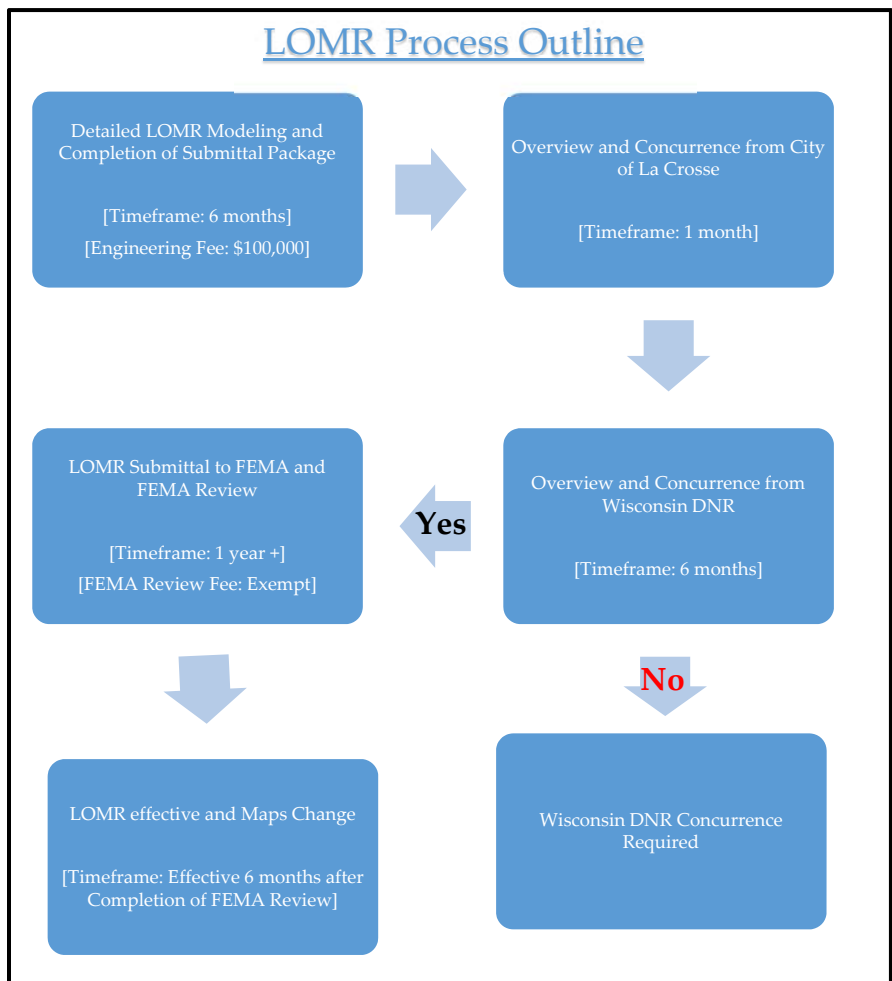
Ebner Coulee Flood Elevations Comparison Table

FIS Cross-section	1-percent Flood Elevations (feet, NAVD88)		
	FIS	2017 SEH Study	Reduction
A	659.6	656.9	-2.7
B	659.7	658.3	-1.4
C	660.5	658.9	-1.6
D	661.6	660.0	-1.6
E	662.4	660.9	-1.5
F	664.7	663.8	-0.9
G	665.9	665.5	-0.4
H	667.9	666.6	-1.3

In addition to a number of structures potentially removed from the mandatory flood insurance requirements, those not removed (or who elect to purchase flood insurance) would likely see a decrease in flood insurance premiums due to a decrease in the 1-percent flood elevations.

Next Steps

The study results provide an insight into the potential map changes from a restudy of the Ebner Coulee system. In order for any mapping changes to be recognized by insurance and lending institutions a FEMA Letter of Map Revision is necessary.



Potential Roadblock

Initial discussions with the Wisconsin DNR floodplain staff indicate that it is unlikely DNR will concur with a LOMR request based on differing hydrologic methods alone. Without finding specific errors in the existing hydrologic analysis or providing calibration based data supporting the change; DNR concurrence may not be attainable and LOMR submittal not possible.

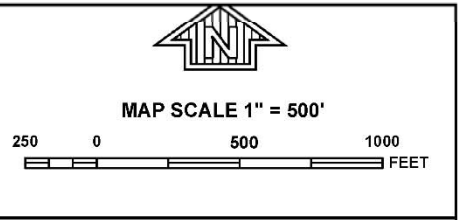
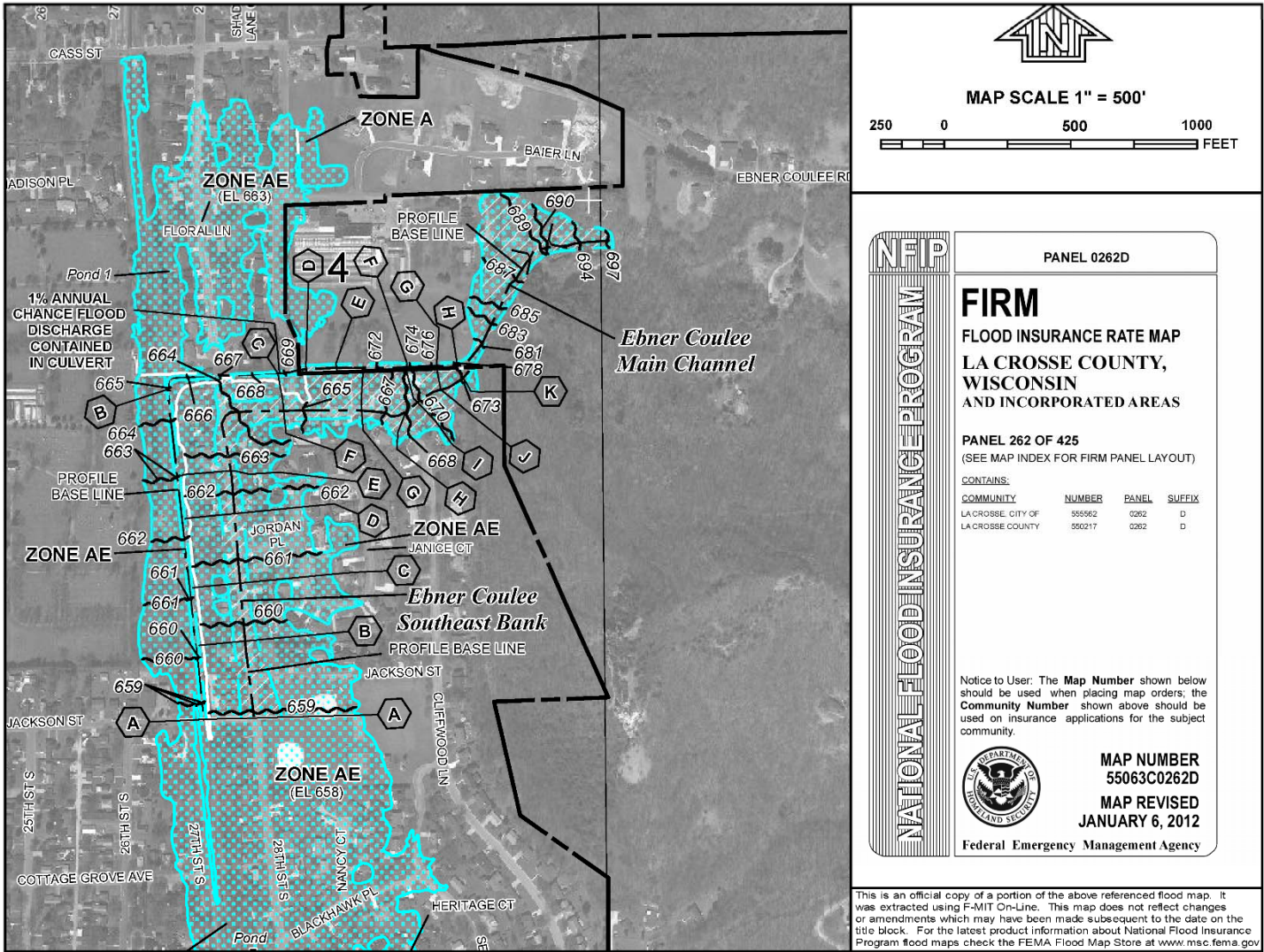


USGS stream gaging may be a means to obtain more accurate peak flow estimates for Ebner Coulee. USGS staff indicate that approximately 10-15 years of gage data collection would be required to obtain peak flood estimates.

USGS Stream gaging costs:

- *Gage purchase and installation: approx. \$12,000.*
- *Annual operation and maintenance: approx. \$12,000/year*

Effective Flood Insurance Rate Map (FIRM) for Ebner Coulee



PANEL 0262D

FIRM
FLOOD INSURANCE RATE MAP
LA CROSSE COUNTY,
WISCONSIN
AND INCORPORATED AREAS

PANEL 262 OF 425
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LA CROSSE CITY OF	555662	0262	D
LA CROSSE COUNTY	550217	0262	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
55063C0262D
MAP REVISED
JANUARY 6, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using FAMIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

The information contained in this fact sheet was prepared by Short Elliott Hendrickson, Inc. as part of the Ebner Coulee Floodway FIRM Mapping Study.

Questions Regarding this Study:

Mr. Bernard Lenz – City of La Crosse; Lenzb@cityoflacrosse.org; 608.789.7364

Mr. Brad Woznak – SEH Inc.; bwoznak@sehinc.com; 651.490.2125



Building a Better World
for All of Us®

Engineers | Architects | Planners | Scientists