

344,428.42  
2,495,691.48  
EL. 823.16

344,396.90  
2,493,078.02  
EL. 842.01

LEGEND

- 100 YEAR FLOOD INUNDATION LINE
- FLOOD STAGE ELEVATION (FEET NATIONAL GEODETIC VERTICAL DATUM)
- SOURCE: JEWEL CREEK/ BLOTT DAM FLOOD PLAIN ANALYSIS
- APRIL 26, 1999

NOTE:

1. WHERE FLOODWAY BOUNDARY AND 100 YEAR FLOOD BOUNDARY ARE THE SAME, ONLY THE FLOODWAY BOUNDARY IS SHOWN.

REVISED FLOODPLAIN MAP MARCH 2001

- FLOODWAY BOUNDARY
- 100 YEAR FLOOD BOUNDARY

REVISED MARCH 27, 2001

SE 7 SEC. 5, T5N, R20E

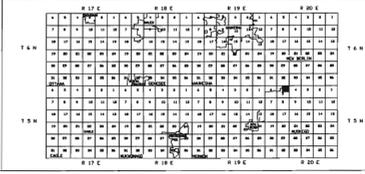
LEGEND

- NGS TRIANGULATION STATION
- MONUMENTED LAND SURVEY CORNER
- TRAVERSE STATION
- PHOTO CENTER
- BM OR TBM (LABELLED)

COMBINATION SCALE AND SEA LEVEL REDUCTION FACTOR: 0.99992700  
 HORIZONTAL DATUM IS BASED ON THE WISCONSIN PLANE COORDINATE SYSTEM, SOUTH ZONE, (NORTH AMERICAN DATUM OF 1927).  
 VERTICAL DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929.  
 COMPILED TO NATIONAL MAP ACCURACY STANDARDS UTILIZING STEREOPHOTOGRAMMETRIC METHODS.  
 DATE OF PHOTOGRAPHY: MARCH 26, 1999  
 AERO-METRIC, INC. PROJECT NO. 1990321

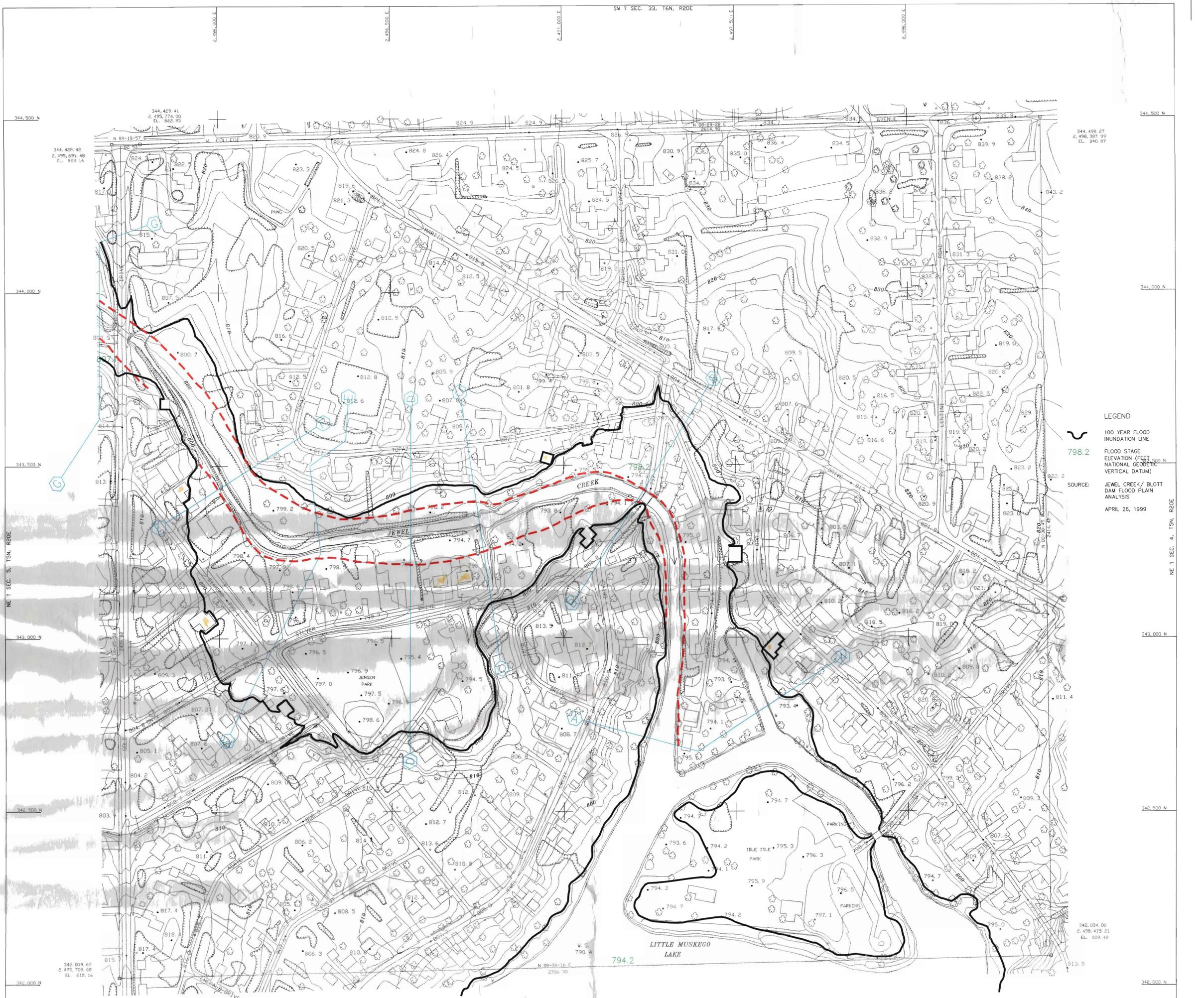
TN GN  
 01°15'53"  
 SCALE: 1"=100', CONTOUR INTERVAL 2'  
 100 0 100 200 300 400  
 GRAPHIC SCALE IN FEET

TOPOGRAPHIC MAP OF  
 NE 1/4 SECTION 5  
 TOWNSHIP 5 NORTH, RANGE 20 EAST  
 WAUKESHA COUNTY, WISCONSIN



PREPARED FOR  
 WAUKESHA COUNTY, WISCONSIN  
 BY  
 AERO-METRIC, INC.  
 SHEBOYGAN, WISCONSIN  
 UNDER A PROGRAM ADMINISTERED BY THE  
 SOUTHEASTERN WISCONSIN REGIONAL  
 PLANNING COMMISSION





**LEGEND**

100 YEAR FLOOD INUNDATION LINE

798.2 FLOOD STAGE ELEVATION (FEET NATIONAL GEODETIC VERTICAL DATUM)

SOURCE: JEWEL CREEK/ BLOTT DAM FLOOD PLAIN ANALYSIS

APRIL 26, 1999

NOTE:

1. WHERE FLOODWAY BOUNDARY AND 100 YEAR FLOOD BOUNDARY ARE THE SAME, ONLY THE FLOODWAY BOUNDARY IS SHOWN.

REVISED FLOODPLAIN MAP MARCH 2001

FLOODWAY BOUNDARY

100 YEAR FLOOD BOUNDARY

REVISED MARCH 27, 2001

**LEGEND**

NGS TRIANGULATION STATION

MONUMENTED LAND SURVEY CORNER

TRAVERSE STATION

PHOTO CENTER

BM OR TM (LABELLED)

COMBINATION SCALE AND SEA LEVEL REDUCTION FACTOR 0.99992700

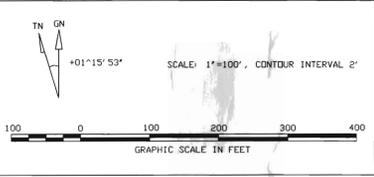
HORIZONTAL DATUM IS BASED ON THE WISCONSIN PLANE COORDINATE SYSTEM SOUTH ZONE (NORTH AMERICAN DATUM OF 1927).

VERTICAL DATUM IS NATIONAL GEODETIC VERTICAL DATUM OF 1929.

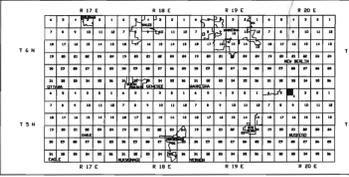
COMPILED TO NATIONAL MAP ACCURACY STANDARDS UTILIZING STEREOPHOTOGRAMMETRIC METHODS.

DATE OF PHOTOGRAPHY MARCH 26, 1999

AERO-METRIC, INC. PROJECT NO. 1990321



TOPOGRAPHIC MAP OF  
NW 1/4 SECTION 4  
TOWNSHIP 5 NORTH, RANGE 20 EAST  
WAUKESHA COUNTY, WISCONSIN



PREPARED FOR  
WAUKESHA COUNTY, WISCONSIN

BY  
AERO-METRIC, INC.  
SHEBOYGAN, WISCONSIN

UNDER A PROGRAM ADMINISTERED BY THE  
SOUTHEASTERN WISCONSIN REGIONAL  
PLANNING COMMISSION



FLOODPLAIN REVISION ANALYSIS  
 JEWEL CREEK/CALHOUN CREEK  
 MUSKEGO, WISCONSIN  
 NEW BERLIN, WISCONSIN

April 26, 1999

INTRODUCTION

The Linnie Lac Management District (LLMD) plans to rehabilitate the John C. Blott Dam in 1999. The project includes replacing the concrete spillway to increase spillway capacity to meet dam safety requirements. The Department of Natural Resources (DNR) required that the LLMD provide information suitable to revise floodplain zoning in accordance with NR 116 requirements. This report summarizes the analysis and results.

The project affects the cities of Muskego and New Berlin. The dam is located on Calhoun Creek in the city of New Berlin, approximately 70 feet upstream of College Avenue, the boundary between Muskego and New Berlin. Calhoun Creek is called Jewel Creek in the city of Muskego. A Flood Insurance Study (FIS) and HEC-2 hydraulic model have been prepared for each stream. The reach included in this revised analysis begins at Little Muskego Lake and extends upstream to the John C. Blott Dam.

HYDROLOGIC ANALYSIS

Hydrologic analyses were completed as part of the FIS for each community. The Southeast Wisconsin Regional Planning Commission (SEWRPC) also completed a hydrologic analysis to determine the 100-year flood at the John C. Blott Dam. Peak 100-year flood discharges for each study are summarized in Table 1. The New Berlin FIS discharge is the regulatory flood and also the most conservative. Therefore, the 100-year flood discharge used in the analysis is 2,060.

Table 1 - Flood Discharge Summary

Study	100-Year Flood Discharge (cfs)
New Berlin FIS	2,060
Muskego FIS	1,450
SEWRPC	1,915

The Linnie Lac reservoir is small relative to the watershed and does not provide for significant flood attenuation. Therefore, the 100-year flood routed through the reservoir will not be significantly different than the 100-year flood inflow. The discharge of 2,060 cfs was used in the hydraulic analysis to simulate conditions with the dam in place.

HYDRAULIC ANALYSIS

The HEC-2 models developed for the New Berlin FIS and Muskego FIS were used to evaluate flood elevations between the dam and Little Muskego Lake. The Muskego model includes the

reach from Little Muskego Lake to the downstream side of College Avenue. The New Berlin model includes the reach from Little Muskego Lake to State Highway 15, approximately 4 miles upstream of the dam. A combination of these models was used to model the reach from Little Muskego Lake to the John C. Blott Dam.

The hydraulic model for the Muskego FIS is more detailed than the New Berlin model downstream of College Avenue. Therefore, the Muskego model data was used from Little Muskego Lake to downstream of College Avenue. The New Berlin FIS model includes the College Avenue culverts. The portion of the New Berlin model from the downstream face of College Avenue to upstream of the John C. Blott Dam was added to the Muskego model to create a single model from Little Muskego Lake to the John C. Blott Dam. The 100-year flood discharge in the model is 2,060 cfs.

The starting water surface elevation at the downstream end of the model is the 100-year flood elevation of Little Muskego Lake. This is the same elevation used in the existing FIS model. The 100-year flood elevation for Little Muskego Lake is 794.2. The revised model retains the floodway from the existing FIS model. Existing encroachments were not modified. Where necessary, additional encroachments were added or cross-sections were terminated to maintain the existing floodway boundaries.

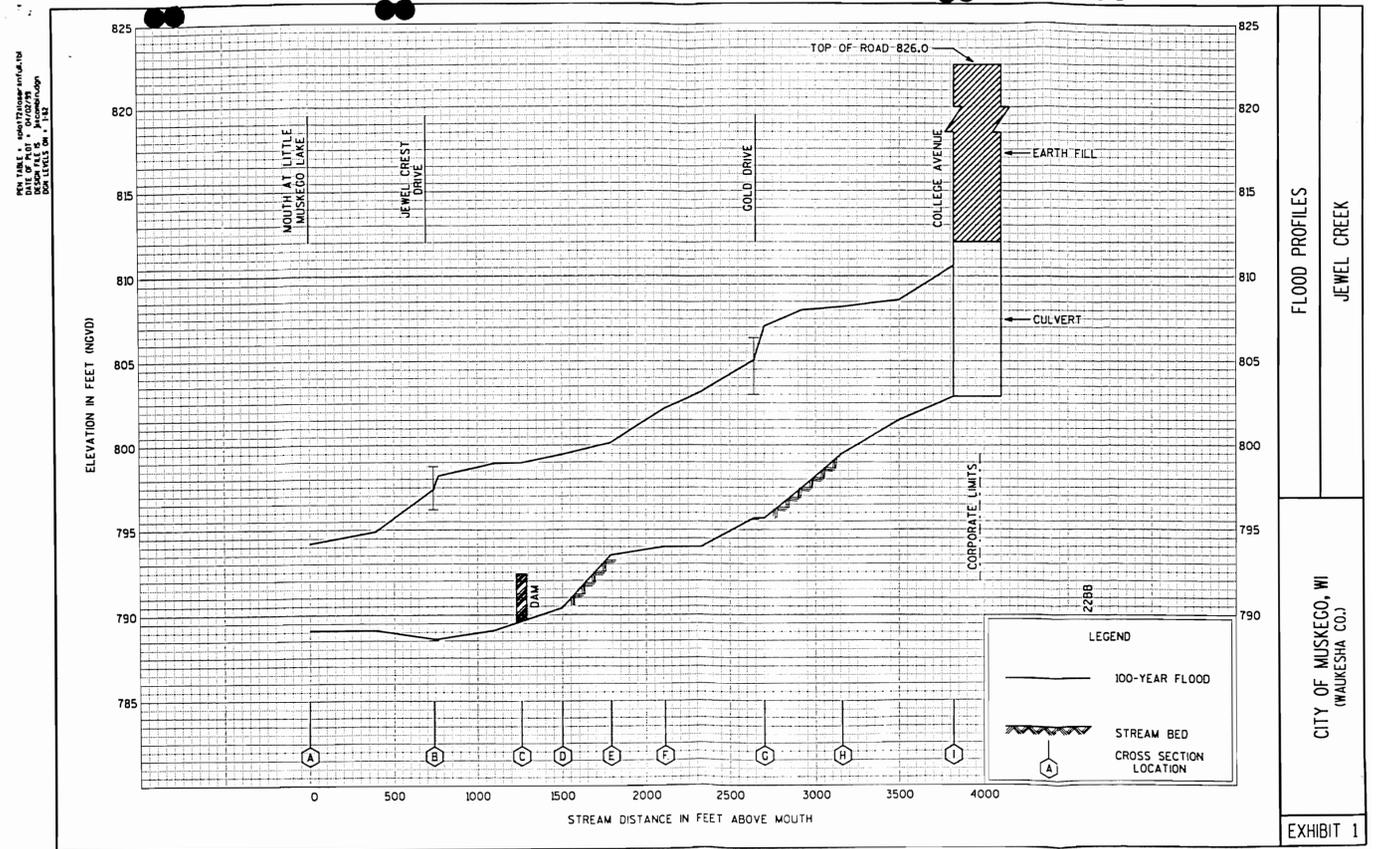
The results of the analysis show a 100-year flood elevation increase of 0.5 to 1.7 feet in the city of Muskego. The resulting increase is a result of increasing the discharge from the Muskego FIS value of 1,450 cfs to 2,060 cfs. The flood elevations are unchanged in the city of New Berlin where the discharge is unchanged from the FIS.

The floodway data table, 100-year flood profile, and floodplain map were revised for the city of Muskego. The existing New Berlin FIS floodway data table, profiles, and maps are unchanged and are not included. Table 2 below is the floodway data table for the reach studied. The sections in Table 2 are the same as in the Muskego FIS floodway data table. The revised flood profiles and flood maps for Jewel Creek in Muskego are included as Exhibits 1 and 2.

Table 2 - Jewel Creek Floodway Data

Section	Distance (ft)	Topwidth (ft)	Section Area (sq. ft.)	Mean Velocity (ft./sec.)	Flood Elevation (ft NGVD)
A	0	110	427	4.8	794.2
B	770	37	346	6.0	798.2
C	1260	148	541	3.8	799.0
D	1500	191	762	2.7	799.5
E	1790	94	335	6.1	800.2
F	2110	97	447	4.6	802.2
G	2700	165	572	3.6	807.1
H	3160	230	1200	1.7	808.2
I	3820	17	130	15.8	810.7

Flood maps and profiles were not changed for Calhoun Creek in the City of New Berlin since the discharge is unchanged. However, the new spillway has greater capacity than the existing spillway. The 100-year flood elevation on Linnie Lac according to the New Berlin FIS is 821.0. The new spillway can pass the 100-year flood with a reservoir elevation of 817.6.



FLOOD PROFILES  
 JEWEL CREEK

CITY OF MUSKEGO, WI  
 (WAUKESHA CO.)

EXHIBIT 1