

**LEGEND**

THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THE TIME.

**LOW WATER DATUM**

ELEVATIONS AND PROJECT DEPTHS ARE REFERRED TO INTERNATIONAL GREAT LAKES DATUM (1985) WHEN LAKE ELEV. IS AT ELEVATION 569.2 FT., LAKE ST. CLAIR AT 572.3 FT., AND LAKE STURON AT 574.5 FT., ABOVE MEAN WATER LEVEL AT RIMOUSKI, QUEBEC.

**GRID COORDINATES**

GRIDS SHOWN ARE BASED ON NATIONAL GEODESIC SURVEY PROJECTION THREE-S, STATE OF MICHIGAN, SOUTH ZONE (2113), LAMBERT PROJECTION, 1983 NORTH AMERICAN DATUM.

**DIRECTIONS**

ALL DIRECTIONS ARE GRID AZIMUTHS REFERRED TO NORTH ZERO.

**PROJECT DEPTHS**

PROJECT DEPTHS ARE AS INDICATED ABOVE.

THE AUTOMATED ELECTRONIC SURVEY WAS CONDUCTED BY FRED LEONH, PARTY CHIEF, AROUND THE USACE SURVEY LAUNCH BOAT.

**AUTOMATED EQUIPMENT USED**

POSITIONING: STARLINK DOPS  
 DATA PROCESSOR: BELL PC  
 SOFTWARE: CHARTAL, OCEANOGRAPHICS  
 PLOTTER: ENCAD, CADJET 2  
 SONIC SCANDER: UNDERPAC 448

- NOTES:**
- GAUGES USED WERE REFERENCED FROM RM "BRIDGE" ELEV. 579.00 TOLD BY BEING 4.50' OUT ON N.W. END OF STEEL 5/8" UNDER MAIN ST. BRIDGE.
  - POSITIONS WERE DETERMINED BY GPS REFERENCE BEACON RX#1 LOCATED AT FORT WAYNE DETROIT, MICHIGAN. FREQUENCY 319 KHZ, 200 BPS.
  - TRANSDUCER FREQUENCY USED TO MEASURE DEPTHS DATA WAS 200 KHZ AND THE BEAM ANGLE WAS 3.0 DEGREES.

**LEGEND**

— x — x —	FENCE
— · · · —	SHORELINE
— — — —	CONTOUR LINE
△	HORIZONTAL CONTROL POINT
△	HORIZONTAL CONTROL POINT AND BENCHMARK
⊠	BENCHMARK

**SURVEY CONTROL DATA**

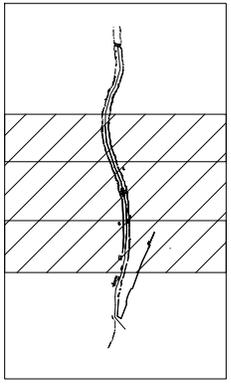
STATION NUMBER	COORDINATES		ELEV.
	NORTH	EAST	
13	447,654.64	13,625,815.75	
BRENNAN	447,791.24	13,625,585.35	
B. W. BELLE			582.43

**CHANNEL CONTROL DATA**

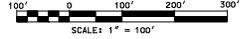
STATION NUMBER	DESCRIPTION	COORDINATES	
		NORTH	EAST
7	CENTERLINE	447,991.09	13,625,942.45
8	CENTERLINE	447,559.03	13,625,928.44
9	CENTERLINE	448,028.35	13,625,831.20
10	CENTERLINE	448,305.48	13,625,711.68
11	CENTERLINE	448,779.01	13,625,557.35



INDEX TO SHEETS BELLE RIVER



15.0 FT. CONTOUR ~~~~~  
 14.0 FT. CONTOUR ~~~~~



DATE	REVISION	BY
<b>U.S. ARMY ENGINEER DISTRICT, DETROIT CORPS OF ENGINEERS DETROIT, MICHIGAN</b>		
DESIGNED BY:	<b>BELLE RIVER, MICHIGAN CONDITION SOUNDINGS</b>	
DRAWN BY:	C.S. 17+00 TO C.S. 39+00 23 JUN 2003 DETROIT AREA OFFICE	
SUBMITTED:	APPROVAL RECOMMENDED:	
CHIEF, PROJ. & ENG. SECT.	CHIEF, QTS BRANCH	SCALE AS SHOWN
APPROVED:	CADD FILE NAME	DRAWING NUMBER
CHIEF, CONST. & OPS DIVISION	SHEET 2 OF 3	1203c.dgn