SURVEY NOTES:

1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

2) VERTICAL DATUM:
NAVD88 (GEOID18), FOOT

3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.

4) SURVEY INFORMATION:
SURVEY VESSEL: BOWEN1 (24' SCULLY'S WORK BOAT)
ECHO SOUNDER: TELEDYNE ECHOTRAC E20
TRANSDUCER: ODOM SMSW200-4 (4° BEAM, 200 kHz)
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
INS: SBG ELLIPSE2-E-G4A2-B1
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS
GNSS SOURCE: TRIMBLE CENTERPOINT RTX
TIDE METHOD: REAL-TIME KINEMATIC
TIDE SOURCE: TRIMBLE CENTERPOINT RTX

5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

MARCH 7, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 13:00
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101	339.28	339.35	335.47	3.81	3.88
102	339.88	339.95	336.01	3.87	3.94
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114	346.70	346.76	342.49	4.21	4.27
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GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	6.78	13:00	6.83
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ILLINOIS

116

115

Farmers Lt. (115.1)

Farmers Ldg

Mid America Transportation Co.

Kaskaskia Chute

Kaskaskia Island

ILLINOIS

N

Scale: 1 Inch = 800.00 Feet

500 1000 2000 3000 4000 Feet

St. Louis District

DATES OF SURVEY:
MARCH 7, 2024

FILE NO.: 115_095C0724
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST. CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 114.0 - 116.0

SHEET NO.
1 OF 1

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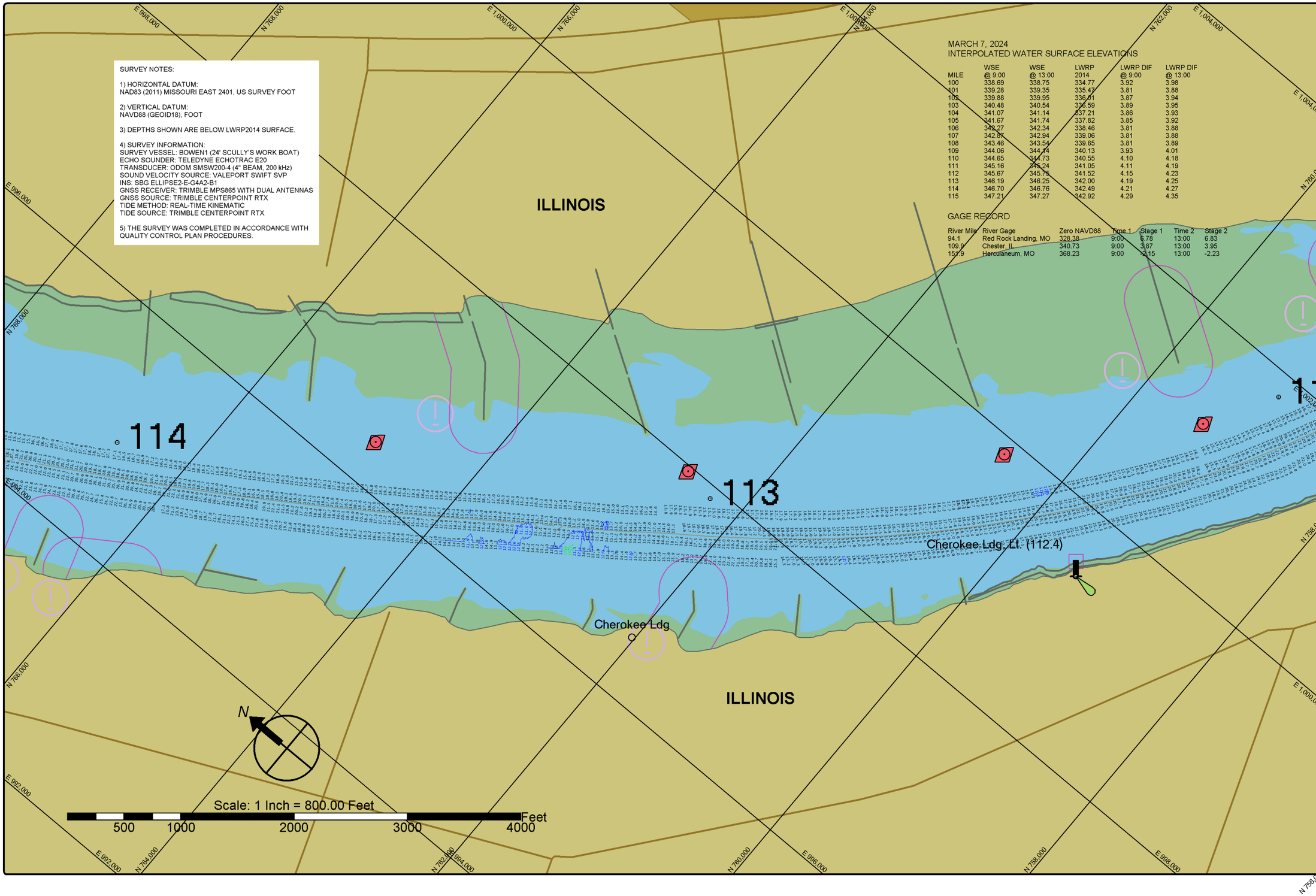

St. Louis District

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 112.0 - 114.0

SHEET NO.
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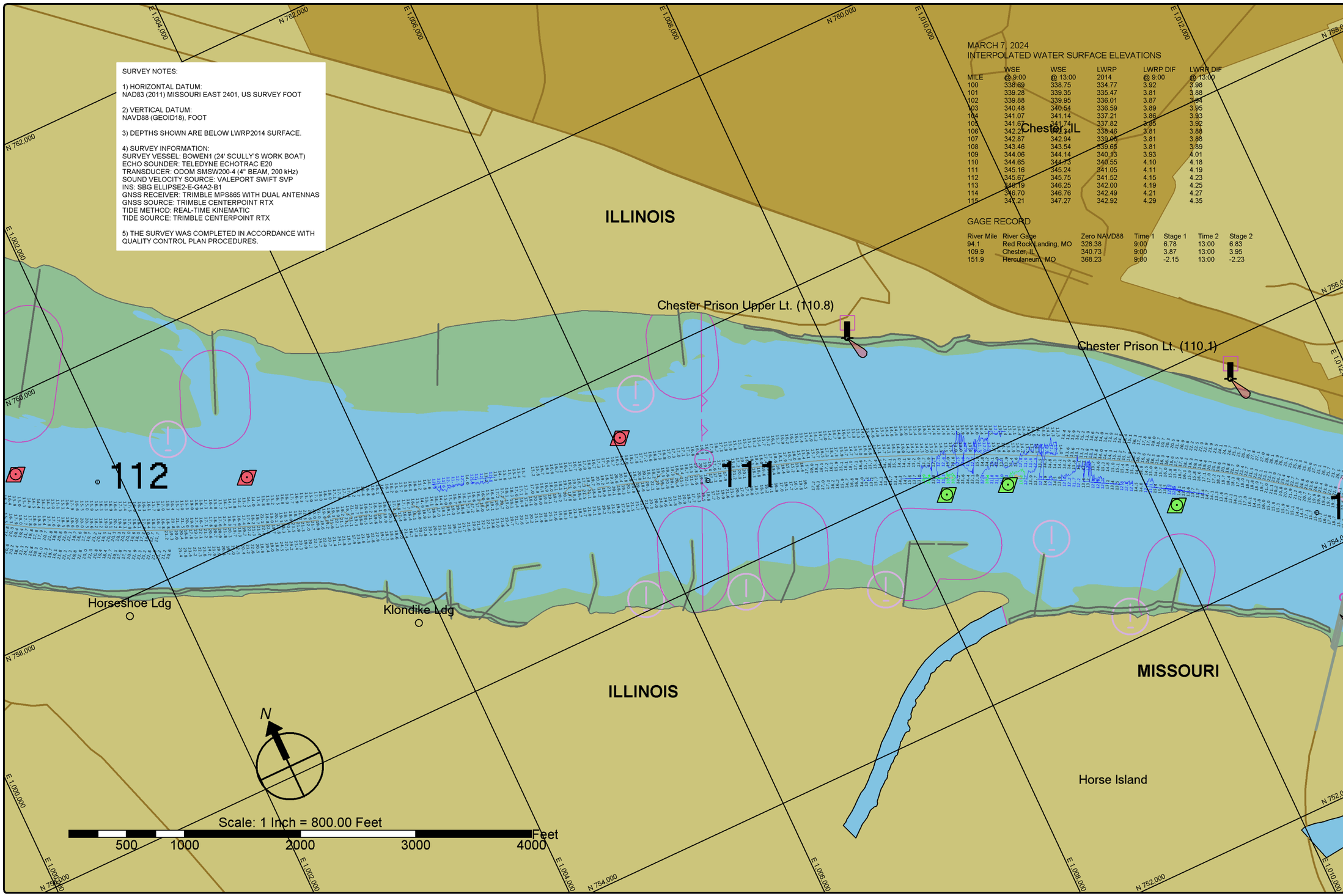

St. Louis District

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 110.0 - 112.0

SHEET NO.
1 OF 1

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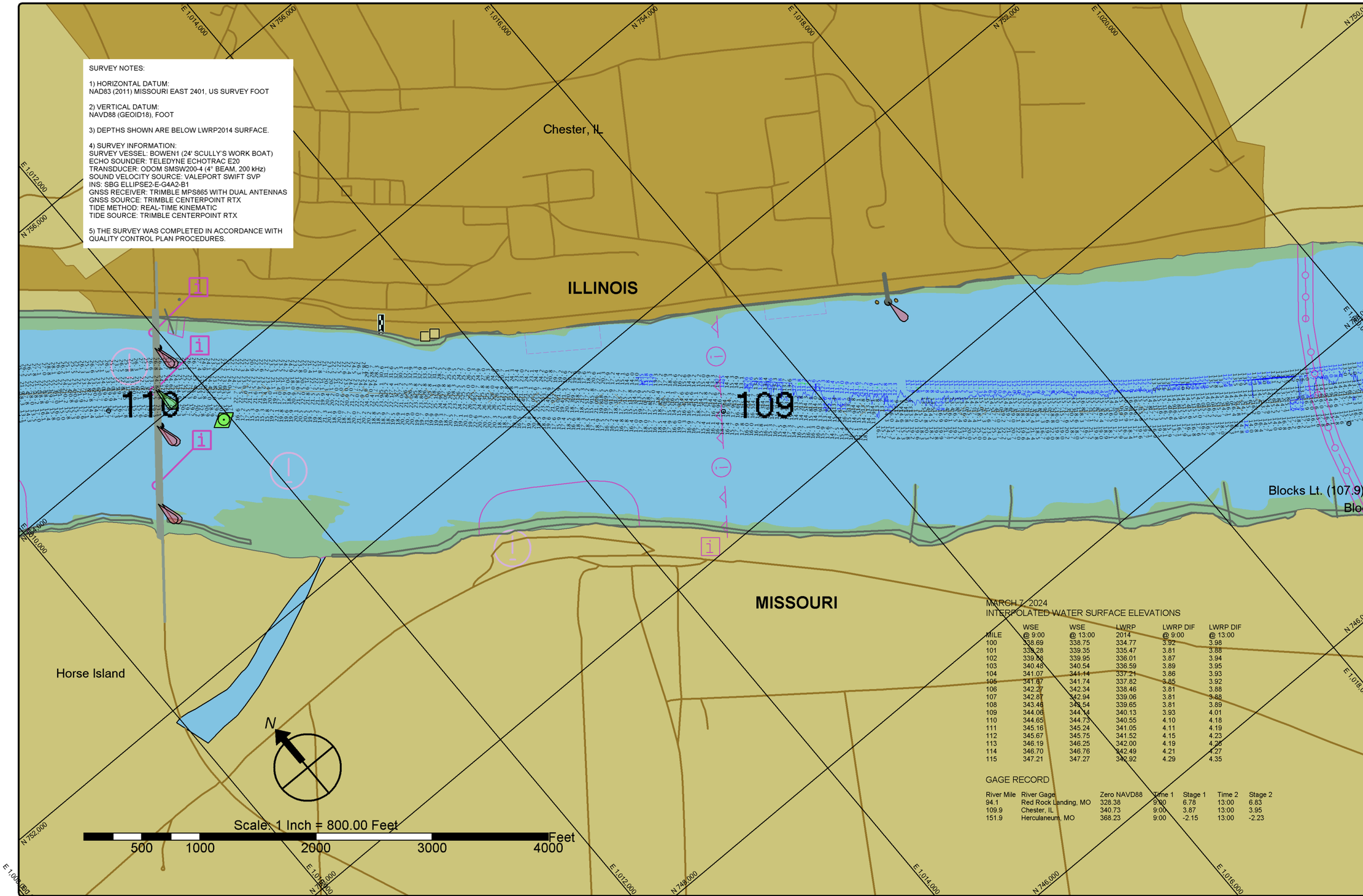

MARCH 7, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

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St. Louis District

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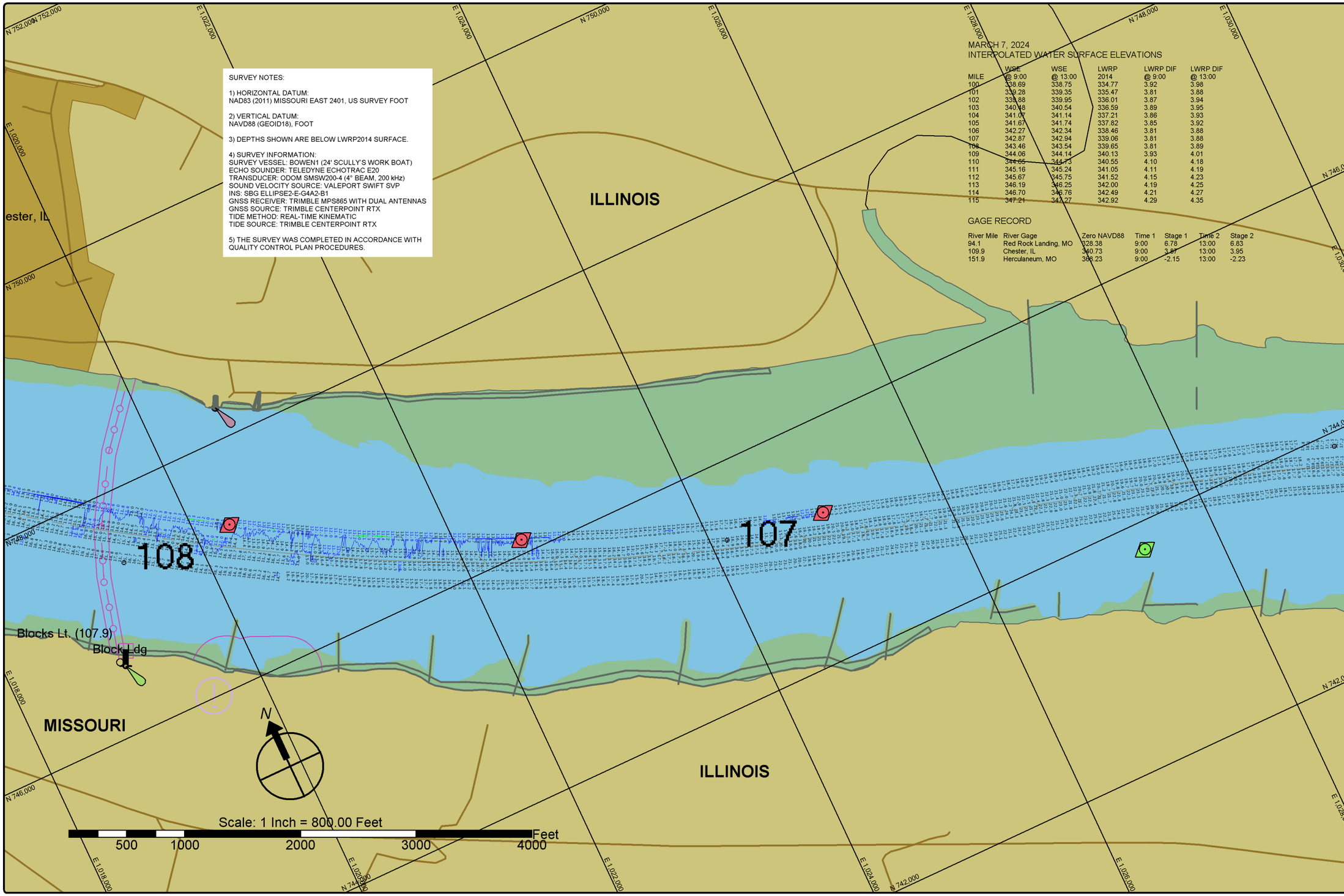
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEDIAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 108.0 -110.0

SHEET NO.
1 OF 1



SURVEY NOTES:

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UPPER MISSISSIPPI RIVER BASIN
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SHEET NO.
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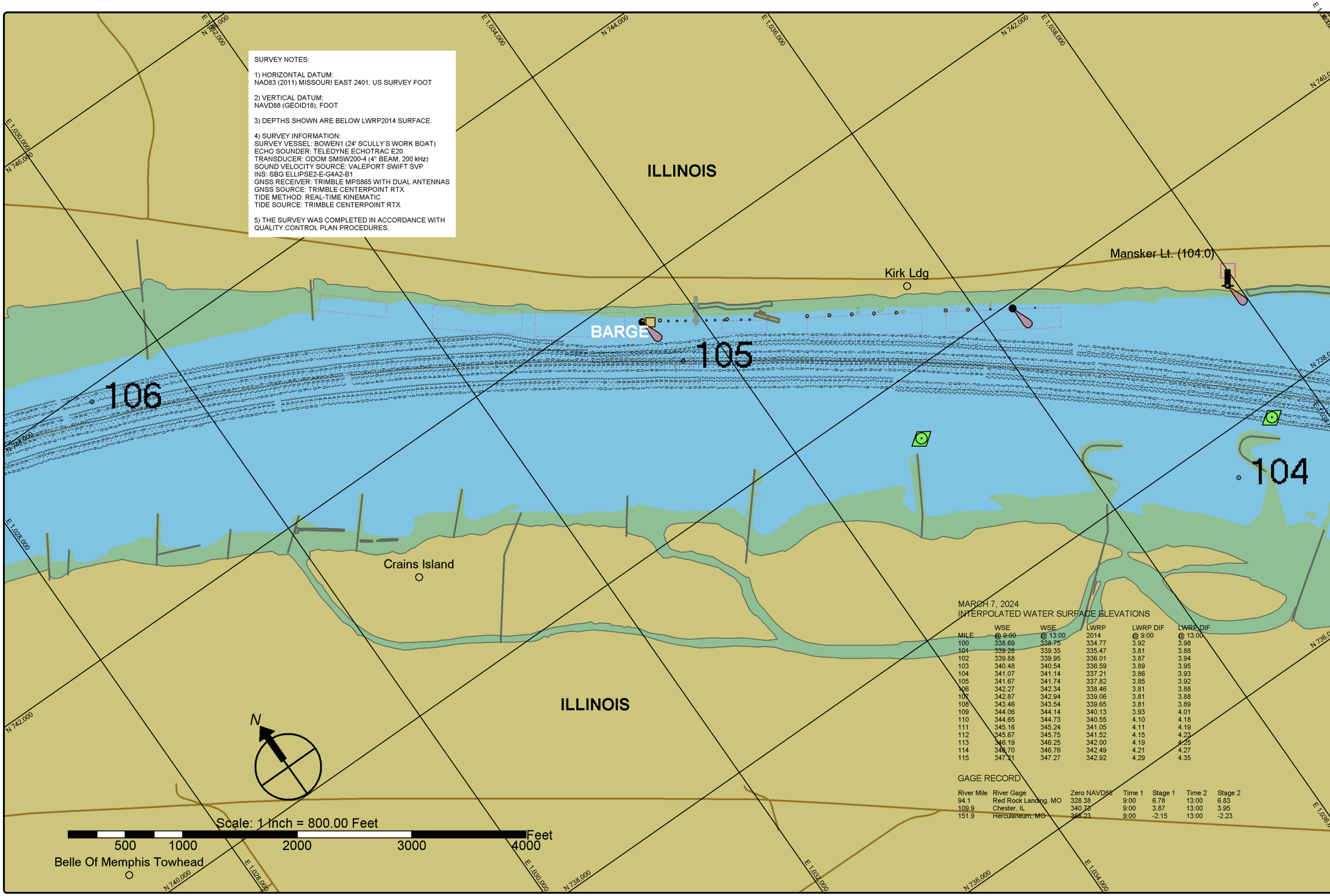

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SHEET NO.
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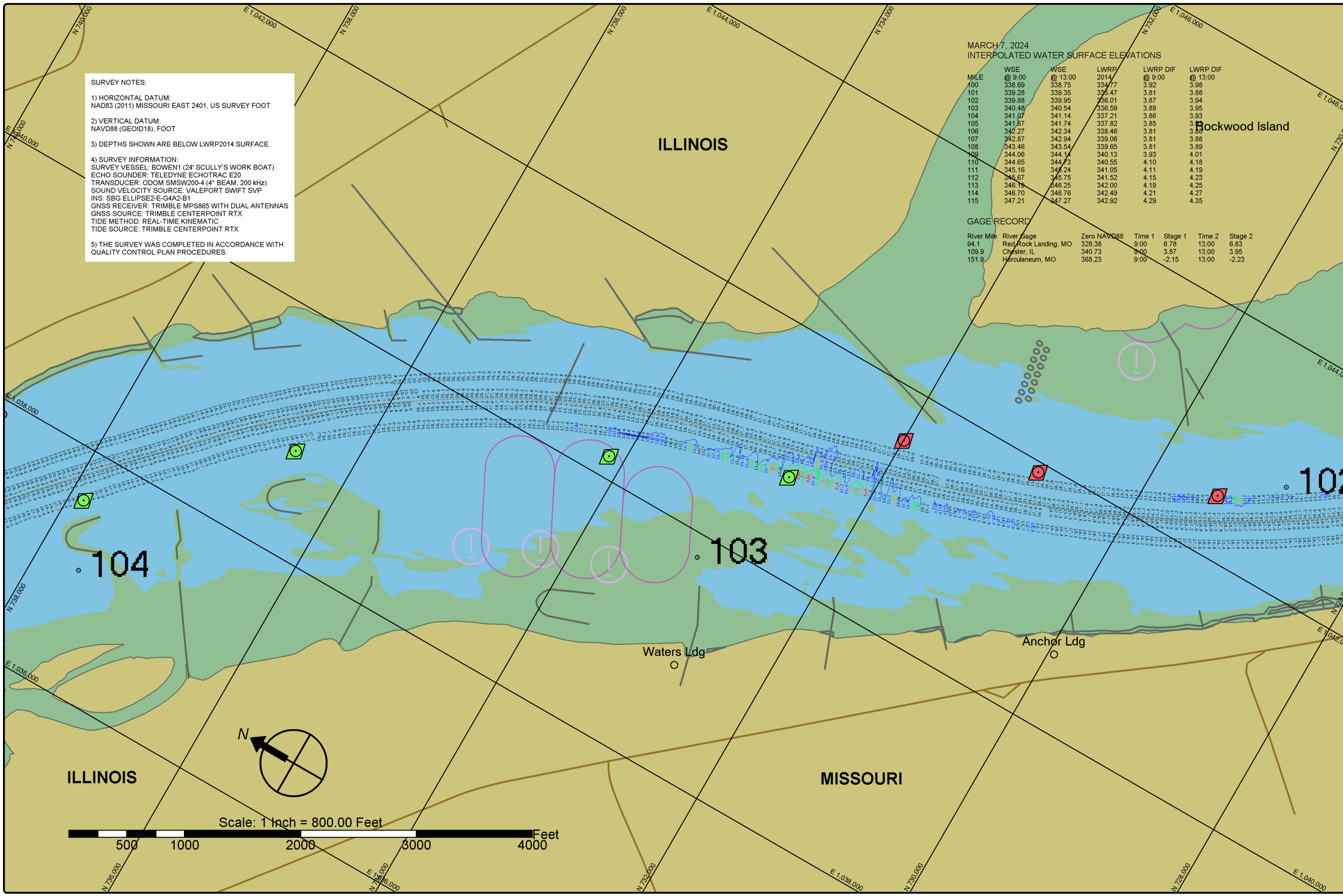

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106	342.27	342.34	338.46	3.81	3.88
107	342.87	342.94	339.06	3.81	3.88
108	343.46	343.54	339.65	3.81	3.89
109	344.06	344.14	340.13	3.93	4.01
110	344.65	344.73	340.55	4.10	4.18
111	345.16	345.24	341.05	4.11	4.19
112	345.67	345.75	341.52	4.15	4.23
113	346.19	346.25	342.00	4.19	4.25
114	346.70	346.76	342.49	4.21	4.27
115	347.21	347.27	342.92	4.29	4.35

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	6.78	13:00	6.83
109.9	Chester, IL	340.73	9:00	3.87	13:00	3.95
151.9	Herculaneum, MO	368.23	9:00	-2.15	13:00	-2.23

St. Louis District

DATES OF SURVEY:
MARCH 7, 2024

FILE NO.: 115_095C0724
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

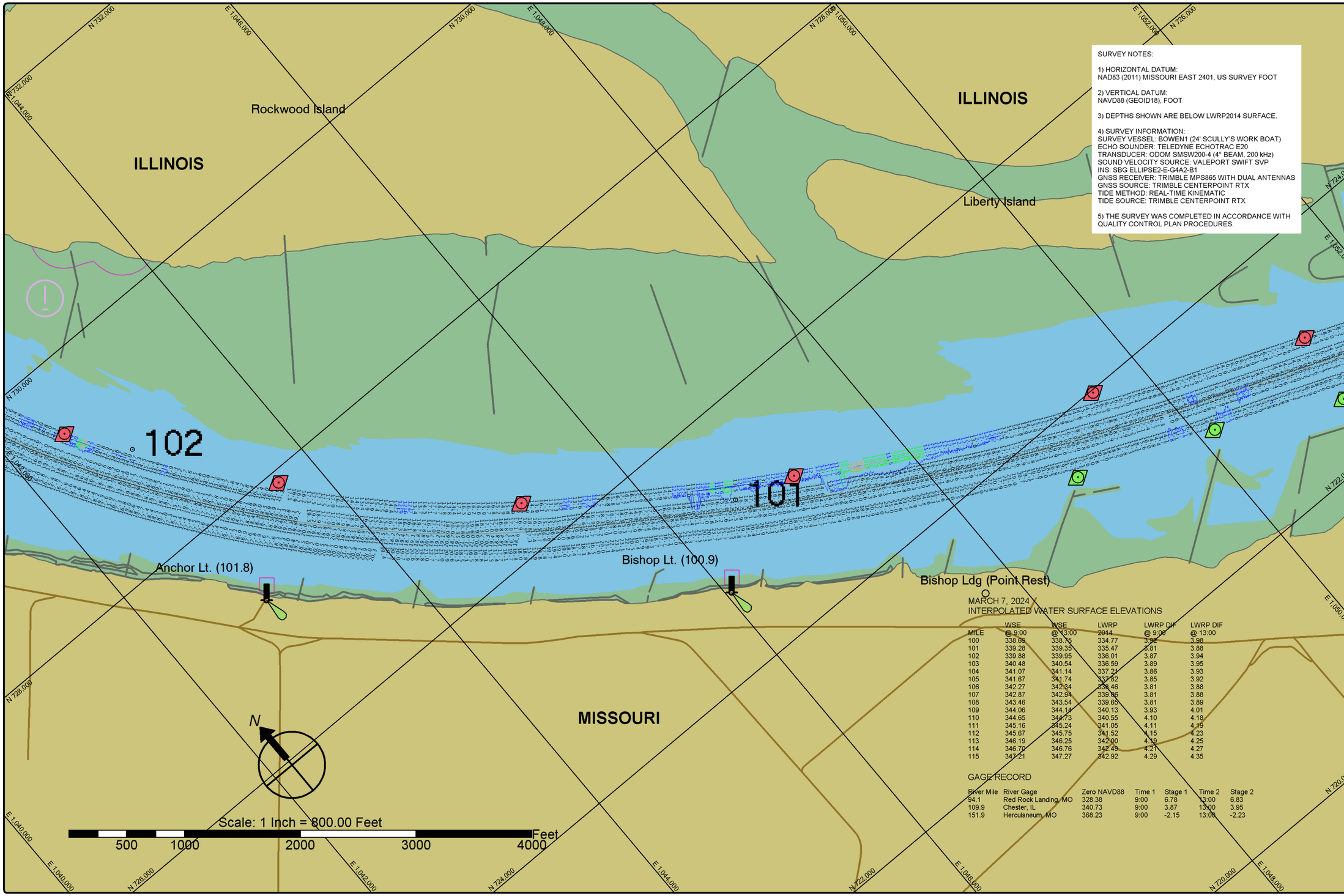
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 102.0 - 103.9

SHEET NO.
1 OF 1



SURVEY NOTES:

1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

2) VERTICAL DATUM:
NAVD88 (GEOID18), FOOT

3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.

4) SURVEY INFORMATION:
SURVEY VESSEL: BOWEN1 (24' SCULLY'S WORK BOAT)
ECHO SOUNDER: TELEDYNE ECHOTRAC E20
TRANSDUCER: ODOM SMSW200-4 (4° BEAM, 200 kHz)
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
INS: SBG ELLIPSE2-E-G4A2-B1
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS
GNSS SOURCE: TRIMBLE CENTERPOINT RTX
TIDE METHOD: REAL-TIME KINEMATIC
TIDE SOURCE: TRIMBLE CENTERPOINT RTX

5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

MARCH 7, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 13:00
100	338.89	338.75	334.77	3.92	3.98
101	339.28	339.35	335.47	3.81	3.88
102	339.88	339.95	336.01	3.87	3.94
103	340.48	340.54	336.59	3.89	3.95
104	341.07	341.14	337.21	3.86	3.93
105	341.67	341.74	337.82	3.85	3.92
106	342.27	342.34	338.46	3.81	3.88
107	342.87	342.94	339.06	3.81	3.88
108	343.46	343.54	339.65	3.81	3.89
109	344.06	344.14	340.13	3.93	4.01
110	344.65	344.73	340.55	4.10	4.18
111	345.16	345.24	341.05	4.11	4.19
112	345.67	345.75	341.52	4.15	4.23
113	346.19	346.25	342.00	4.19	4.25
114	346.70	346.76	342.49	4.21	4.27
115	347.21	347.27	342.92	4.29	4.35

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	6.78	13:00	6.83
109.9	Chester, IL	340.73	9:00	3.87	13:00	3.95
151.9	Herculaneum, MO	368.23	9:00	-2.15	13:00	-2.23

St. Louis District

DATES OF SURVEY:
MARCH 7, 2024

FILE NO.: 115_095C0724
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEDIAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 100.0 -102.0

SHEET NO.
1 OF 1

SURVEY NOTES:

1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

2) VERTICAL DATUM:
NAVD88 (GEOID18), FOOT

3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.

4) SURVEY INFORMATION:
SURVEY VESSEL: BOWEN1 (24' SCULLY'S WORK BOAT)
ECHO SOUNDER: TELEDYNE ECHOTRAC E20
TRANSDUCER: ODOM SMSW200-4 (4° BEAM, 200 kHz)
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
INS: SBG ELLIPSE2-E-G4A2-B1
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS
GNSS SOURCE: TRIMBLE CENTERPOINT RTX
TIDE METHOD: REAL-TIME KINEMATIC
TIDE SOURCE: TRIMBLE CENTERPOINT RTX

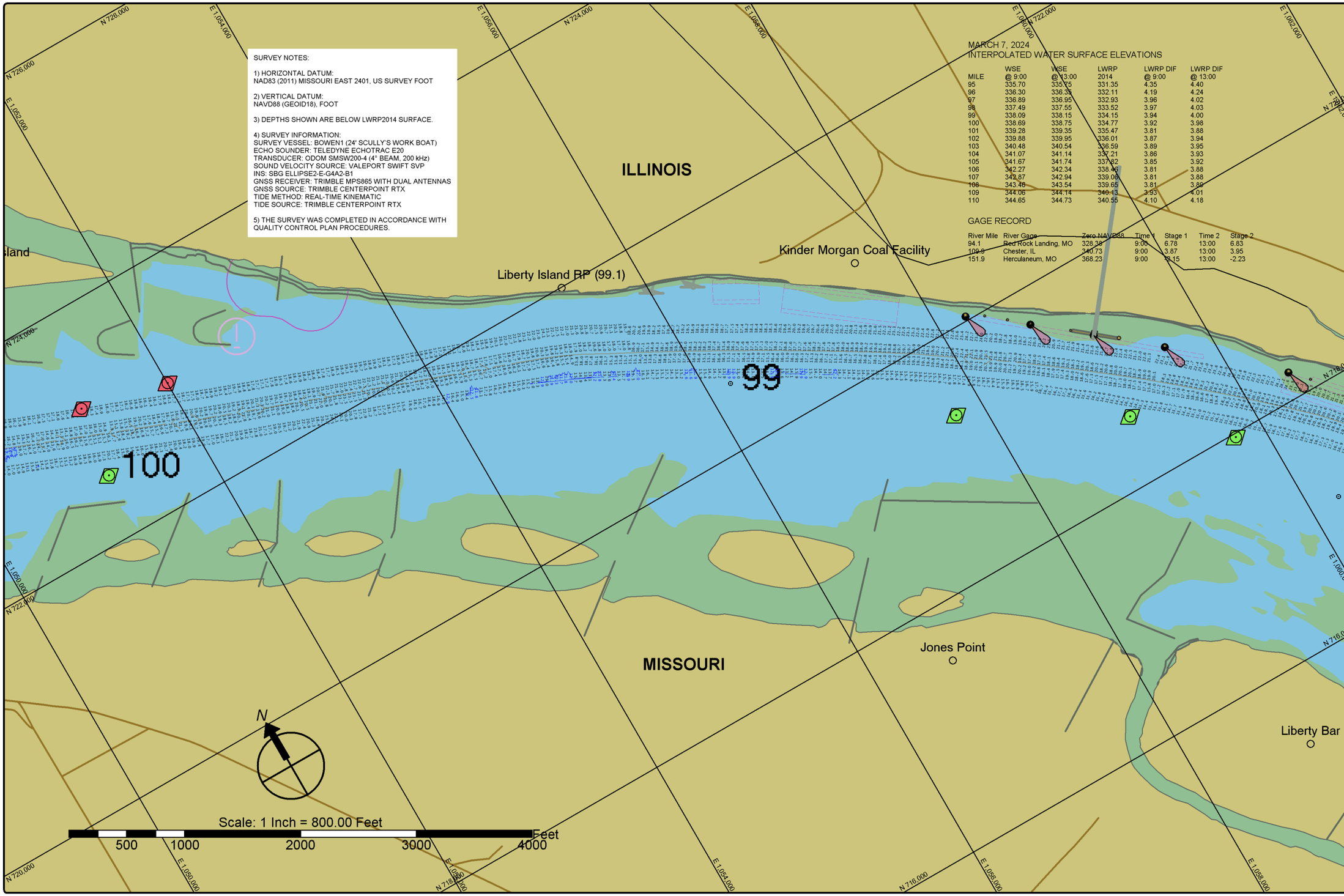
5) THE SURVEY WAS COMPLETED IN ACCORDANCE WITH QUALITY CONTROL PLAN PROCEDURES.

MARCH 7, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 13:00
95	335.70	335.75	331.35	4.35	4.40
96	336.30	336.35	332.11	4.19	4.24
97	336.89	336.95	332.93	3.96	4.02
98	337.49	337.55	333.52	3.97	4.03
99	338.09	338.15	334.15	3.94	4.00
100	338.69	338.75	334.77	3.92	3.98
101	339.28	339.35	335.47	3.81	3.88
102	339.88	339.95	336.01	3.87	3.94
103	340.48	340.54	336.59	3.89	3.95
104	341.07	341.14	337.21	3.86	3.93
105	341.67	341.74	337.82	3.85	3.92
106	342.27	342.34	338.46	3.81	3.88
107	342.87	342.94	339.06	3.81	3.88
108	343.46	343.54	339.65	3.81	3.89
109	344.06	344.14	340.13	3.93	4.01
110	344.65	344.73	340.55	4.10	4.18

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	6.78	13:00	6.83
109.9	Chester, IL	340.73	9:00	3.87	13:00	3.95
151.9	Herculaneum, MO	368.23	9:00	-3.15	13:00	-2.23



St. Louis District

DATES OF SURVEY:
MARCH 7, 2024

FILE NO.: 115_095C0724
REQUEST NO.: W912P924F0029

SCALE:
1" = 800' (ANSI B)

FIELD BOOKS:

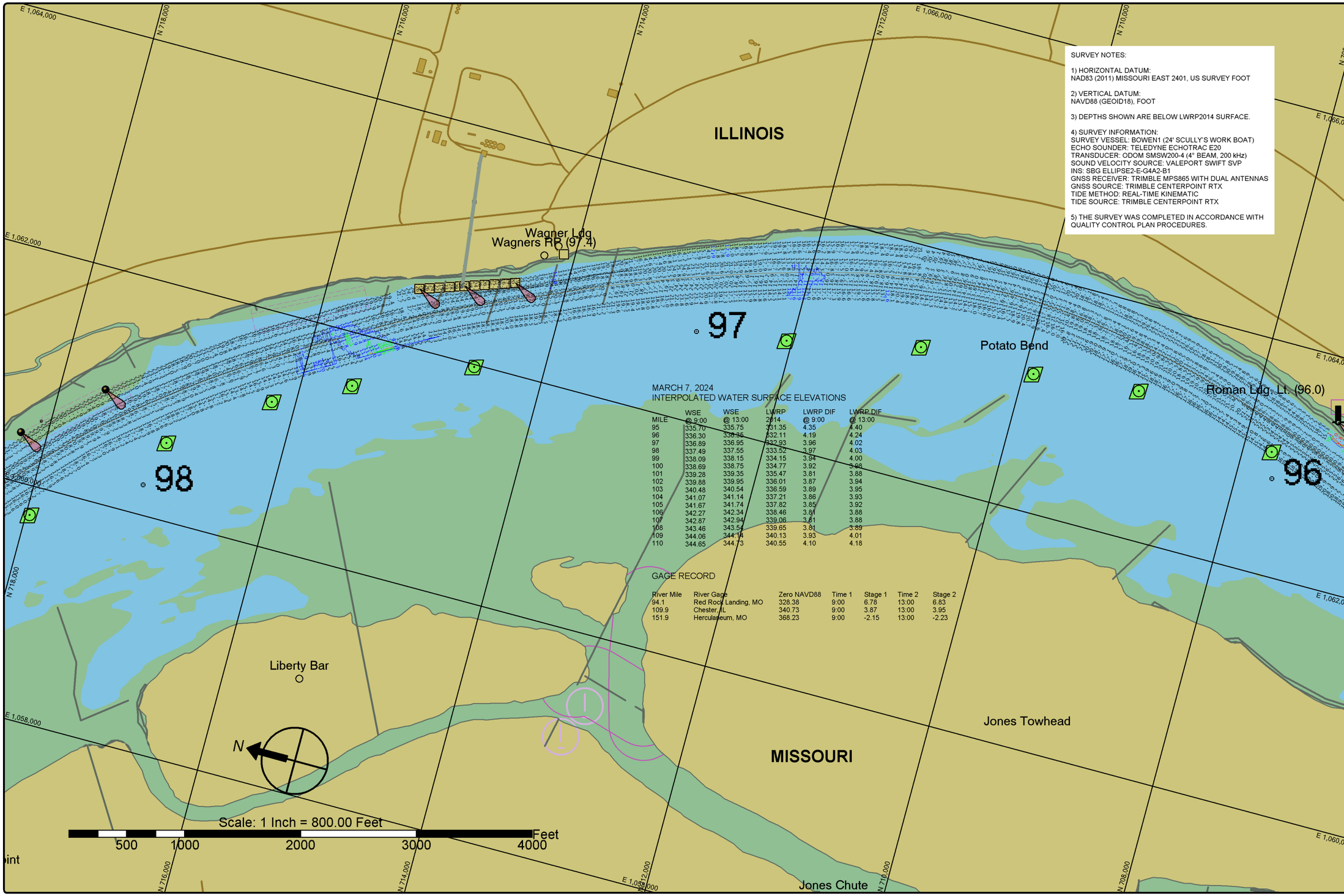
Approved: FIELD CARTOGRAPHER
Approved: CIVIL ENGINEERING TECHNICIAN
Approved: ASST CHIEF OF SURVEY
Approved: CHIEF OF SURVEY
Date:

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 98.0 - 100.0

SHEET NO.
1 OF 1



SURVEY NOTES:

1) HORIZONTAL DATUM:
NAD83 (2011) MISSOURI EAST 2401, US SURVEY FOOT

2) VERTICAL DATUM:
NAVD88 (GEOID18), FOOT

3) DEPTHS SHOWN ARE BELOW LWRP2014 SURFACE.

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SURVEY VESSEL: BOWEN1 (24' SCULLY'S WORK BOAT)
ECHO SOUNDER: TELEDYNE ECHOTRAC E20
TRANSDUCER: ODOM SMSW200-4 (4° BEAM, 200 kHz)
SOUND VELOCITY SOURCE: VALEPORT SWIFT SVP
INS: SBG ELLIPSE2-E-G4A2-B1
GNSS RECEIVER: TRIMBLE MPS865 WITH DUAL ANTENNAS
GNSS SOURCE: TRIMBLE CENTERPOINT RTX
TIDE METHOD: REAL-TIME KINEMATIC
TIDE SOURCE: TRIMBLE CENTERPOINT RTX

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MARCH 7, 2024
INTERPOLATED WATER SURFACE ELEVATIONS

MILE	WSE @ 9:00	WSE @ 13:00	LWRP 2014	LWRP DIF @ 9:00	LWRP DIF @ 13:00
95	335.70	335.75	331.35	4.35	4.40
96	336.30	336.35	332.11	4.19	4.24
97	336.89	336.95	332.93	3.96	4.02
98	337.49	337.55	333.52	3.97	4.03
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106	342.27	342.34	338.46	3.81	3.88
107	342.87	342.94	339.06	3.81	3.88
108	343.46	343.54	339.65	3.81	3.89
109	344.06	344.14	340.13	3.93	4.01
110	344.65	344.73	340.55	4.10	4.18

GAGE RECORD

River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
94.1	Red Rock Landing, MO	328.38	9:00	6.78	13:00	6.63
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151.9	Herculaneum, MO	368.23	9:00	-2.15	13:00	-2.23

St. Louis District

DATES OF SURVEY:
MARCH 7, 2024

FILE NO.: 115_095C0724
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1" = 800' (ANSI B)

FIELD BOOKS:

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Approved: CHIEF OF SURVEY
Date:

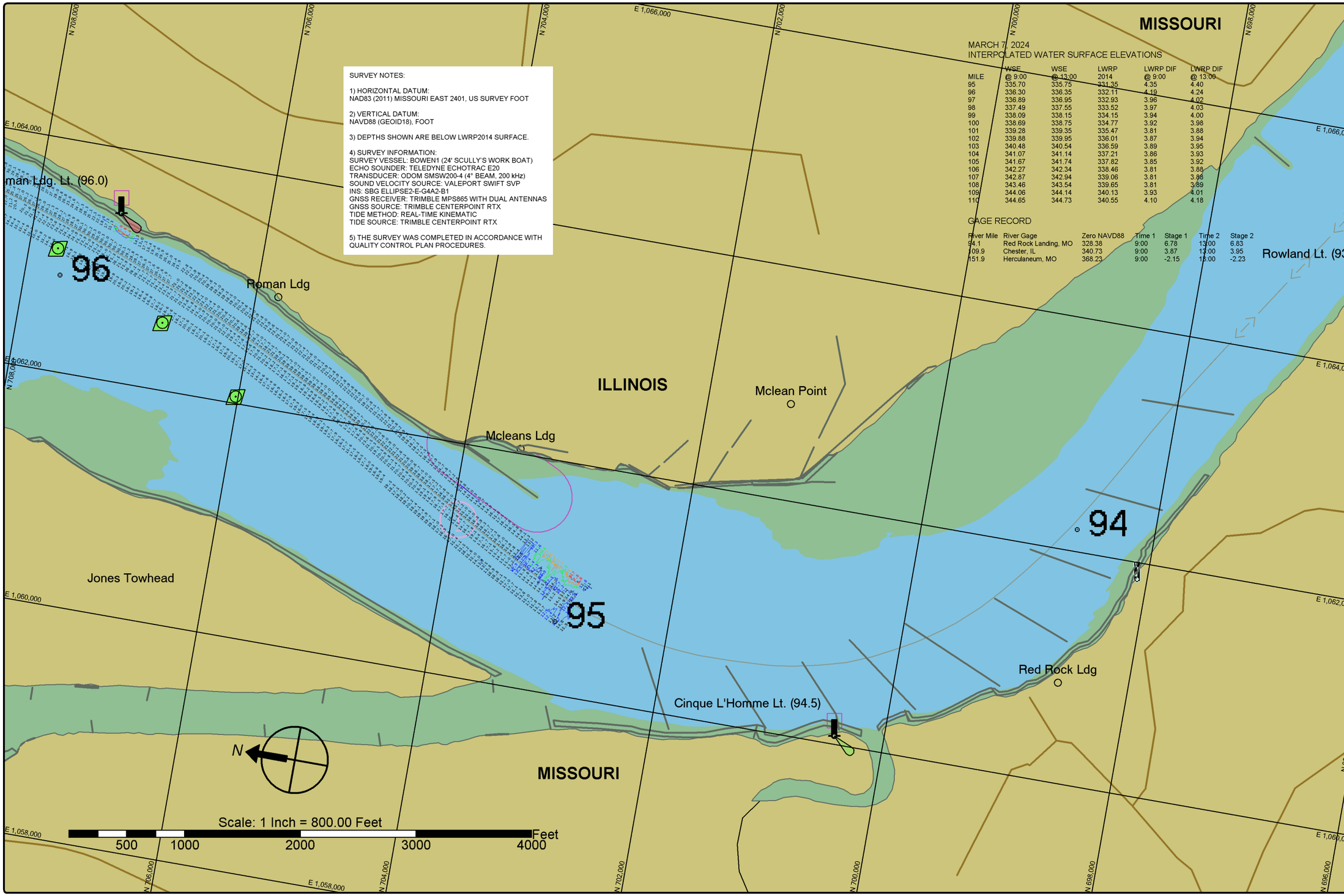
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER

CHANNEL PATROL
RIVER MILES 95.8 - 98.0

SHEET NO.
1 OF 1



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MARCH 7, 2024
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River Mile	River Gage	Zero NAVD88	Time 1	Stage 1	Time 2	Stage 2
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St. Louis District

DATES OF SURVEY:
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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

SURVEYED BY:
BOWEN ENGINEERING AND SURVEYING, P.C.
2121 MEGAN DRIVE
CAPE GIRARDEAU, MO 63701

UPPER MISSISSIPPI RIVER BASIN
MISSISSIPPI RIVER
CHANNEL PATROL
RIVER MILES 93.5 - 95.8

SHEET NO.
1 OF 1