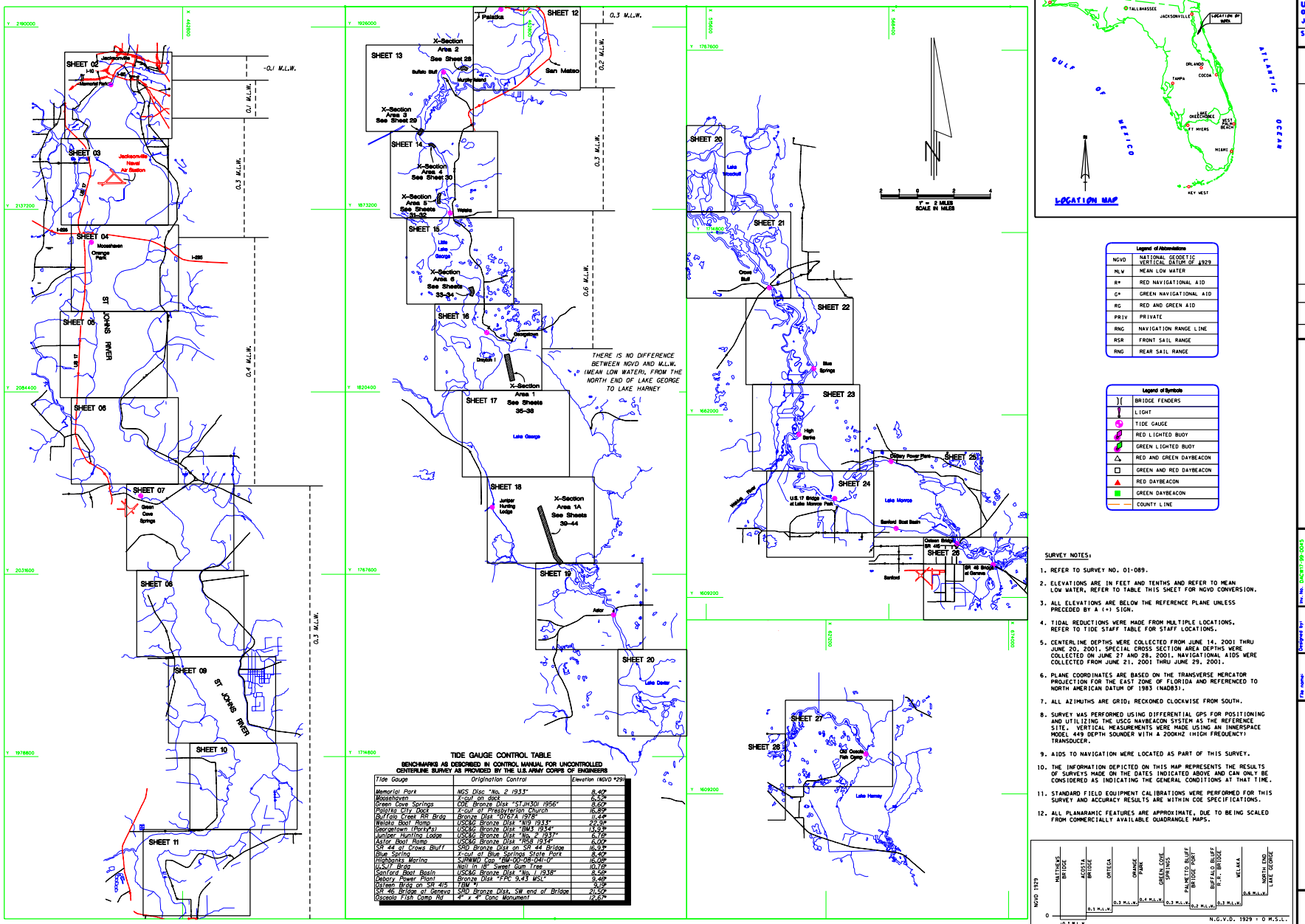


TIDE GAUGE CONTROL TABLE

BENCHMARKS AS DESCRIBED IN CONTROL MANUAL FOR UNCONTROLLED CENTERLINE SURVEY AS PROVIDED BY THE U.S. ARMY CORPS OF ENGINEERS

Tide Gauge	Origination Control	Elevation (NGVD *29)
Memorial Park	NGS Disc "No. 2 1933"	8.40'
Mooshaven	X-cut on dock	6.54'
Green Cove Springs	COE Bronze Disk "ST.JH301 1956"	8.60'
Flagler City Dock	X-cut at Presbyterian Church	16.89'
Buffalo Creek RR Bridg	Bronze Disk "0767A 1978"	11.44'
Welaka Boat Ramp	USC&G Bronze Disk "WLK 1933"	12.34'
Georgetown (Porty-5)	USC&G Bronze Disk "BW3 1934"	14.53'
Juniper Hunting Lodge	USC&G Bronze Disk "No. 2 1937"	6.76'
Astor Boat Ramp	USC&G Bronze Disk "HSB 1934"	6.76'
SR 44 at Crows Bluff	SRD Bronze Disk on SR 44 Bridge	16.91'
Blue Spring	X-cut at Blue Springs State Park	8.40'
Highbanks Marina	SJRWMD Cap "BM-07-08-041-0"	16.08'
U.S.17 Brdg	Nail in 18" Sweet Gum Tree	10.76'
Sanford Boat Basin	USC&G Bronze Disk "No. 1 1938"	8.56'
Debary Power Plant	Bronze Disk "FPC 9.43 MSL"	9.46'
Osteen Brdg on SR 415	TBM " "	9.19'
SR 46 Bridge at Geneva	SRD Bronze Disk, SW end of Bridge	21.54'
Osceola Fish Camp Rd	4" x 4" Conc Monument	12.67'

Legend of Abbreviations

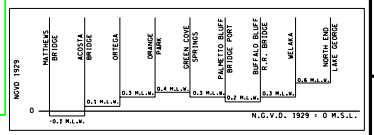
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

BRIDGE FENDERS
LIGHT
TIDE GAUGE
RED LIGHTED BUOY
GREEN LIGHTED BUOY
RED AND GREEN DAYBEACON
GREEN AND RED DAYBEACON
RED DAYBEACON
GREEN DAYBEACON
COUNTY LINE

SURVEY NOTES:

1. REFER TO SURVEY NO. 01-089.
2. ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO MEAN LOW WATER. REFER TO TABLE THIS SHEET FOR NGVD CONVERSION.
3. ALL ELEVATIONS ARE BELOW THE REFERENCE PLANE UNLESS PRECEDED BY A (+) SIGN.
4. TIDAL REDUCTIONS WERE MADE FROM MULTIPLE LOCATIONS. REFER TO TIDE STAFF TABLE FOR STAFF LOCATIONS.
5. CENTERLINE DEPTHS WERE COLLECTED FROM JUNE 14, 2001 THRU JUNE 20, 2001. SPECIAL CROSS SECTION AREA DEPTHS WERE COLLECTED ON JUNE 27 AND 28, 2001. NAVIGATIONAL AIDS WERE COLLECTED FROM JUNE 21, 2001 THRU JUNE 29, 2001.
6. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE EAST ZONE OF FLORIDA AND REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83).
7. ALL AZIMUTHS ARE GRID; RECKONED CLOCKWISE FROM SOUTH.
8. SURVEY WAS PERFORMED USING DIFFERENTIAL GPS FOR POSITIONING AND UTILIZING THE USCG NAVBEACON SYSTEM AS THE REFERENCE SITE. VERTICAL MEASUREMENTS WERE MADE USING AN INNERSPACE MODEL 449 DEPTH SOUNDER WITH A 200KHZ (HIGH FREQUENCY) TRANSDUCER.
9. AIDS TO NAVIGATION WERE LOCATED AS PART OF THIS SURVEY.
10. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED ABOVE AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS AT THAT TIME.
11. STANDARD FIELD EQUIPMENT CALIBRATIONS WERE PERFORMED FOR THIS SURVEY AND ACCURACY RESULTS ARE WITHIN COE SPECIFICATIONS.
12. ALL PLANARAMIC FEATURES ARE APPROXIMATE, DUE TO BEING SCALED FROM COMMERCIALLY AVAILABLE QUADRANGLE MAPS.



US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.D. BRADLEY AND ASSOCIATES
LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6868

Rev. No. DACW17-99-D-0043
Dated 16 JUNE 1999
Scale: AS SHOWN
Plot date: 20 JUNE 2001
Plot scale: 1" = 2 MILES
Designed by: KRK
Drawn by: KRK
Checked by: KRK
Dated 20 JUNE 2001
D.O.F.ILE NO. 2-38.225
File name: C089_SH01.DGN
Reference files: C089_SL3.DGN

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
30, 15, 12, AND 5 FOOT PROJECT
COVER

DRAWING NO.
1 / 44
SHEET 1 OF 44

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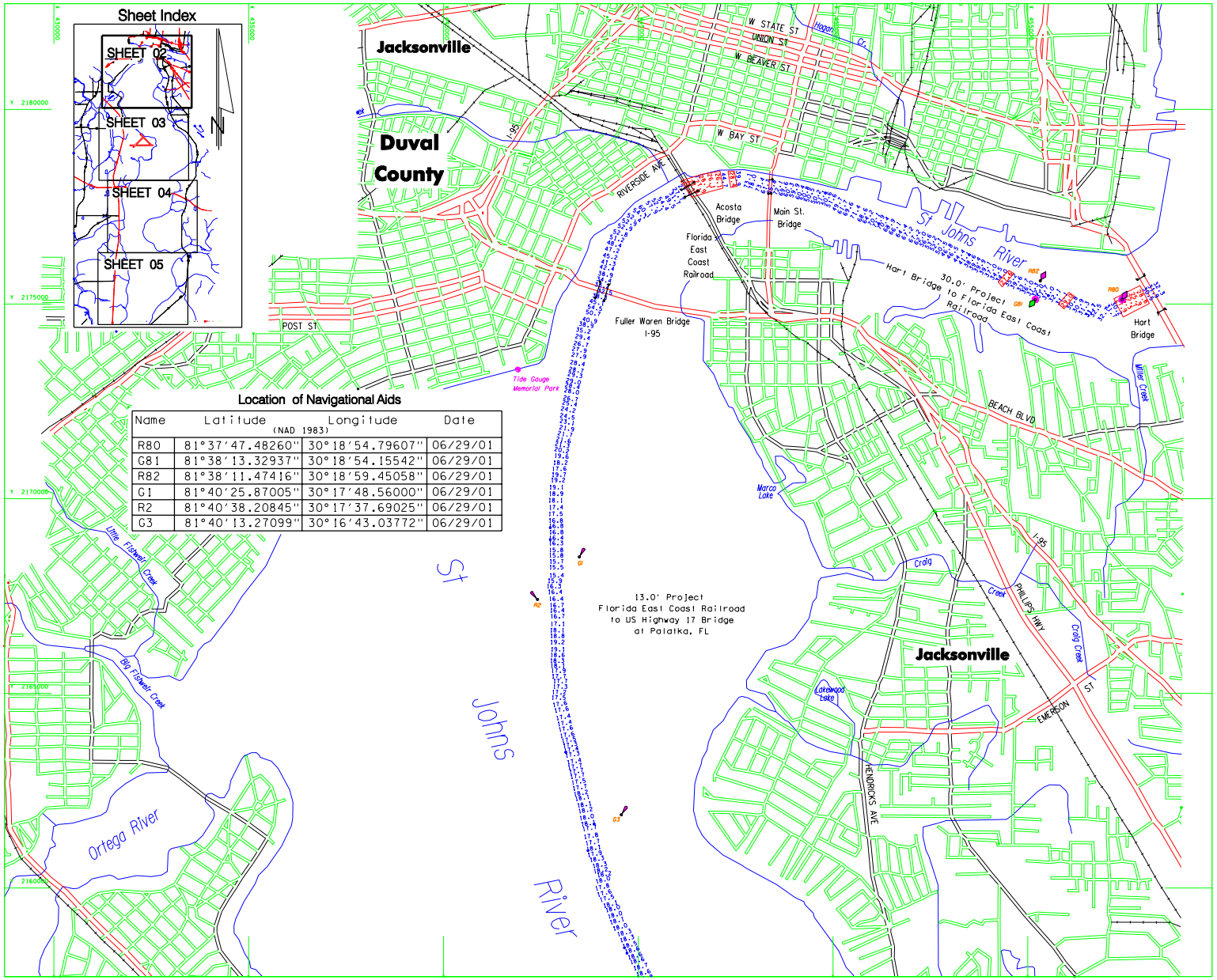

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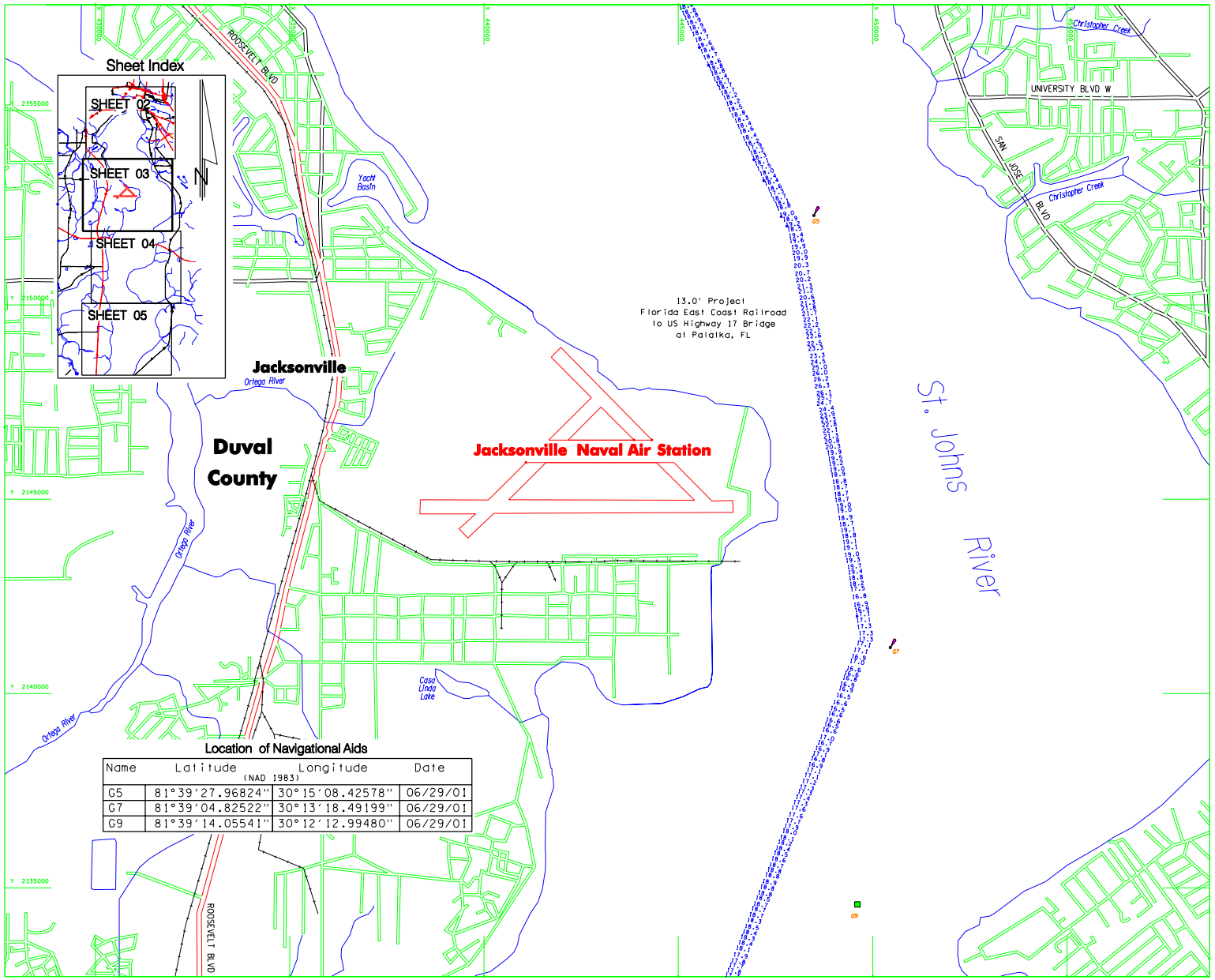

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G5	81°39'27.96824"	30°15'08.42578"	06/29/01
G7	81°39'04.82522"	30°13'18.49199"	06/29/01
G9	81°39'14.05541"	30°12'12.99480"	06/29/01

1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

) (	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
— —	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

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JACKSONVILLE, FLORIDA

L.B. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: XXX
Dwn by: CHS
Ckd by: RJS
Dwn. No. DACW17-99-0045
Date: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Date: XXXXXXX
D.O.FILE NO. 2-38,225

File name: C089_SH03.DGN
Reference files: C089_BRD C089_QUADS C089_CL_ELEV C089_NAVAD C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
03 / 44
SHEET 03 OF 44

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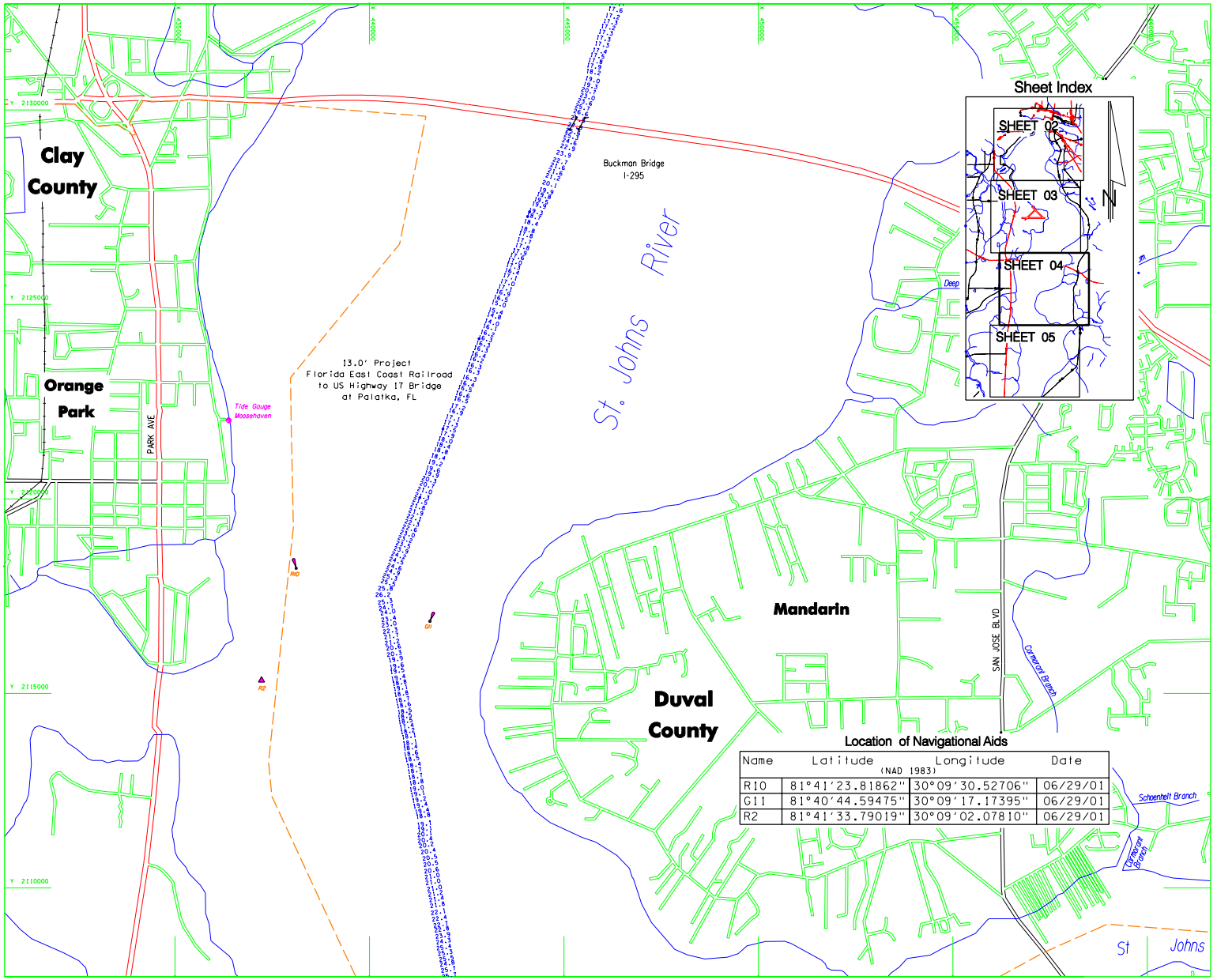

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Jacksonville District

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JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5713 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Rev. No. DACW17-99-D-0045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/13/01
Plot scale: 1" = 2000'

Designed by
Drawn by: CHS
Check by: RJG
Dated: XXXXXXX

File name: C089_SH04.DGN
Reference files: C089_DGN05, C089_GLLEY, C089_JAXO, C089_SL

D.O.FILE NO. 2-38,225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE MARKEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
04 / 44
SHEET 04 OF 44

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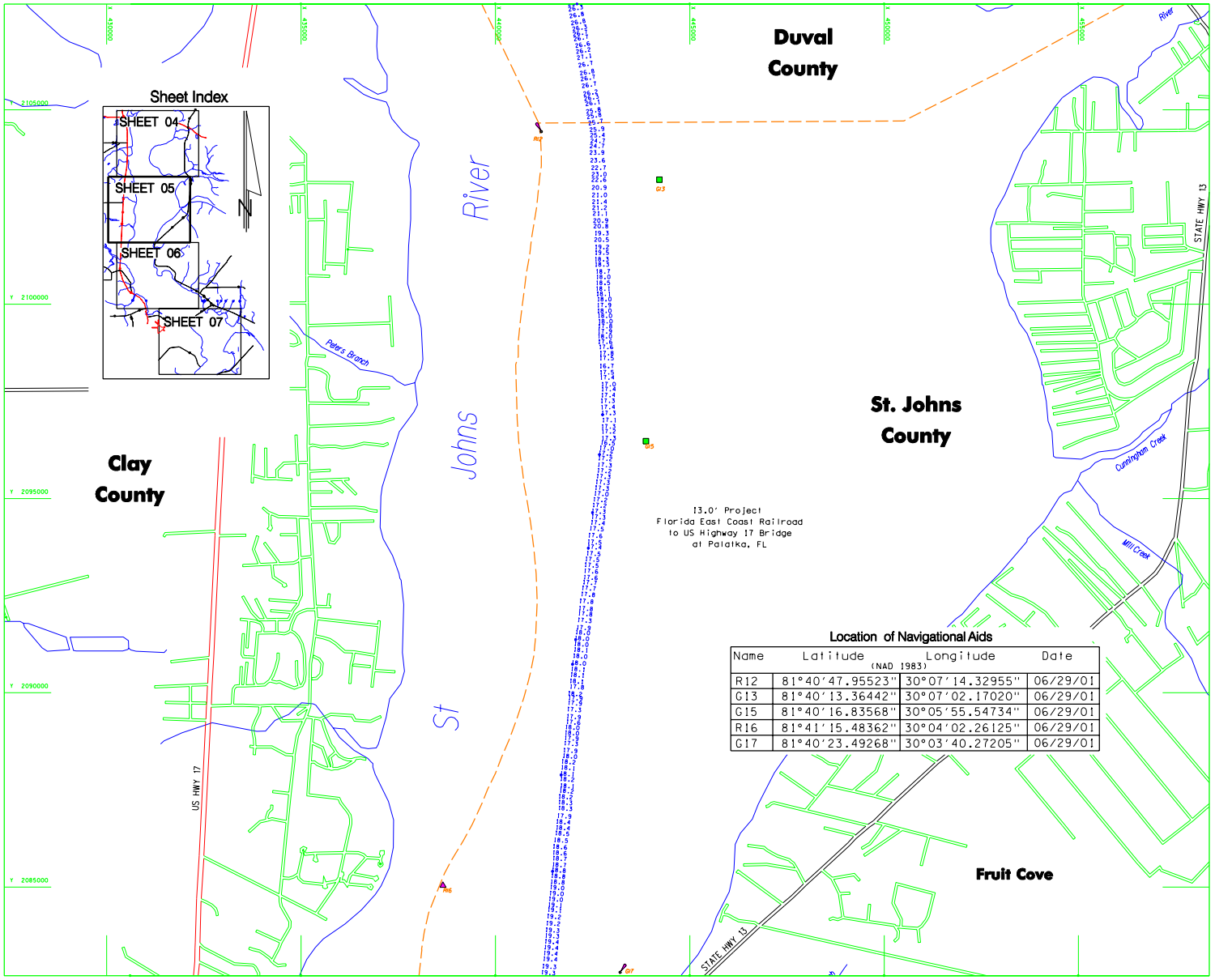

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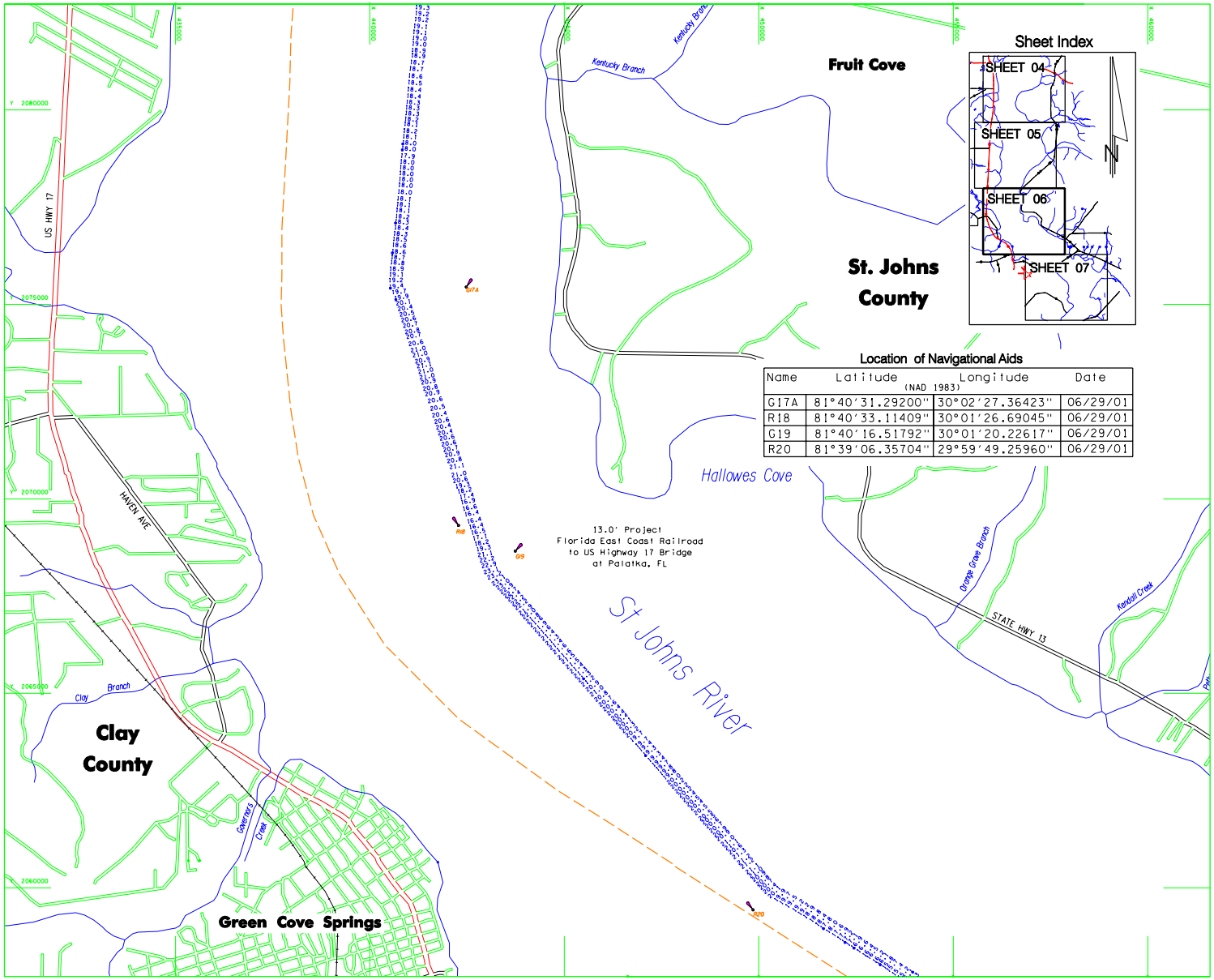

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G17A	81°40'31.29200"	30°02'27.36423"	06/29/01
R18	81°40'33.11409"	30°01'26.69045"	06/29/01
G19	81°40'16.51792"	30°01'20.22617"	06/29/01
R20	81°39'06.35704"	29°59'49.25960"	06/29/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
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JACKSONVILLE, FLORIDA

5713 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS NO. 6868

L.J. BRADLEY LAND SURVEYORS

D.O.F. FILE NO. 2-38.225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
06 / 44

SHEET 06 OF 44

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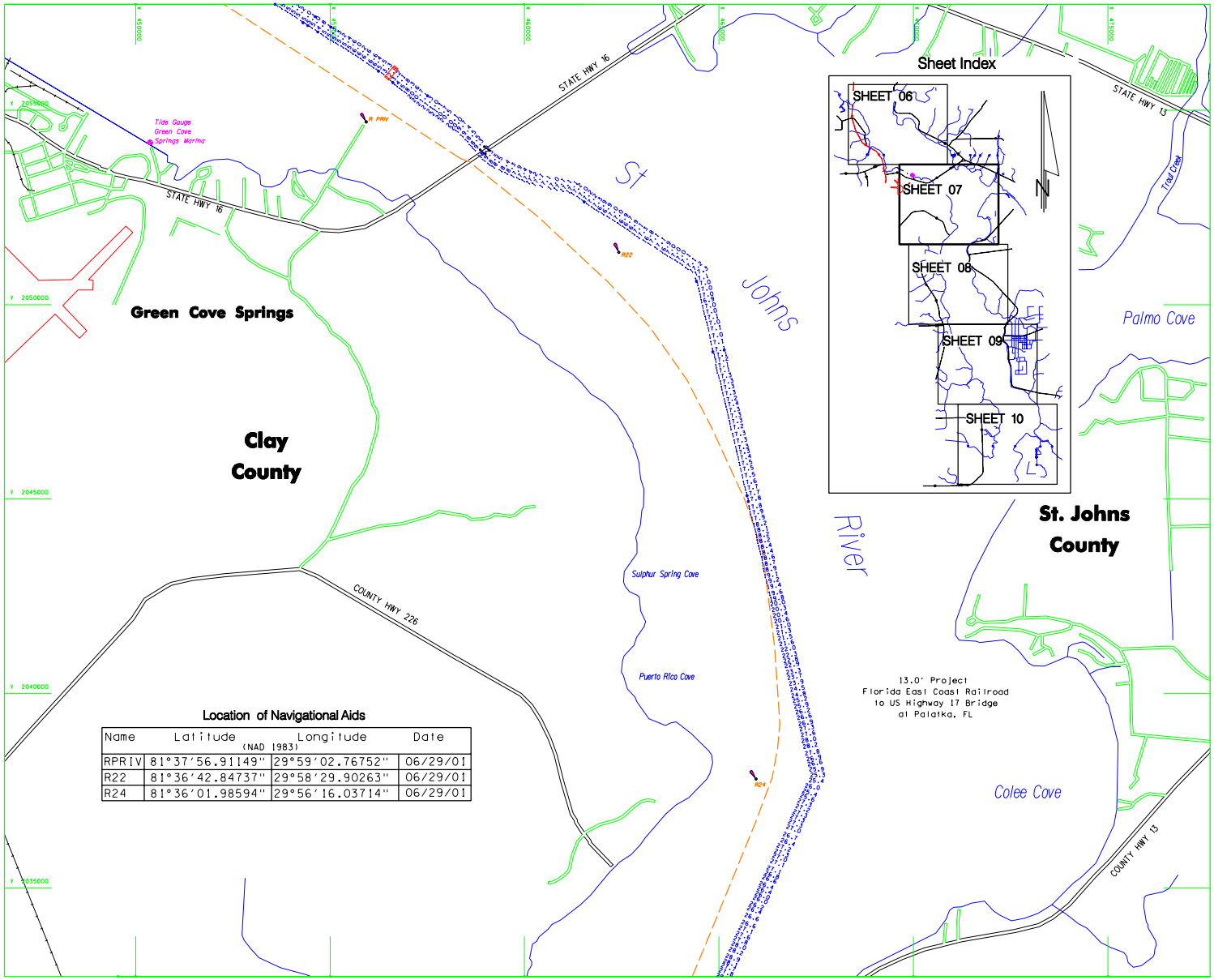

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
RPRIV	81°37'56.91149"	29°59'02.76752"	06/29/01
R22	81°36'42.84737"	29°58'29.90263"	06/29/01
R24	81°36'01.98594"	29°56'16.03714"	06/29/01

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1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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Legend of Symbols

- BRIDGE FENDERS
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- TIDE GAUGE
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- GREEN LIGHTED BUOY
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- GREEN AND RED DAYBEACON
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- GREEN DAYBEACON
- COUNTY LINE

NOTES:
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2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

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No.	Symbol	Zone	Description	Approved

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JACKSONVILLE, FLORIDA

L.D. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Inv. No. DACW17-99-0045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Designed by: KXX
Dwn by: CHS
Ckd by: RJS
Date: XXXXXXX
D.O.FILE NO. 2-38,225
File name: C089_SH07.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
07 / 44

SHEET 07 OF 44

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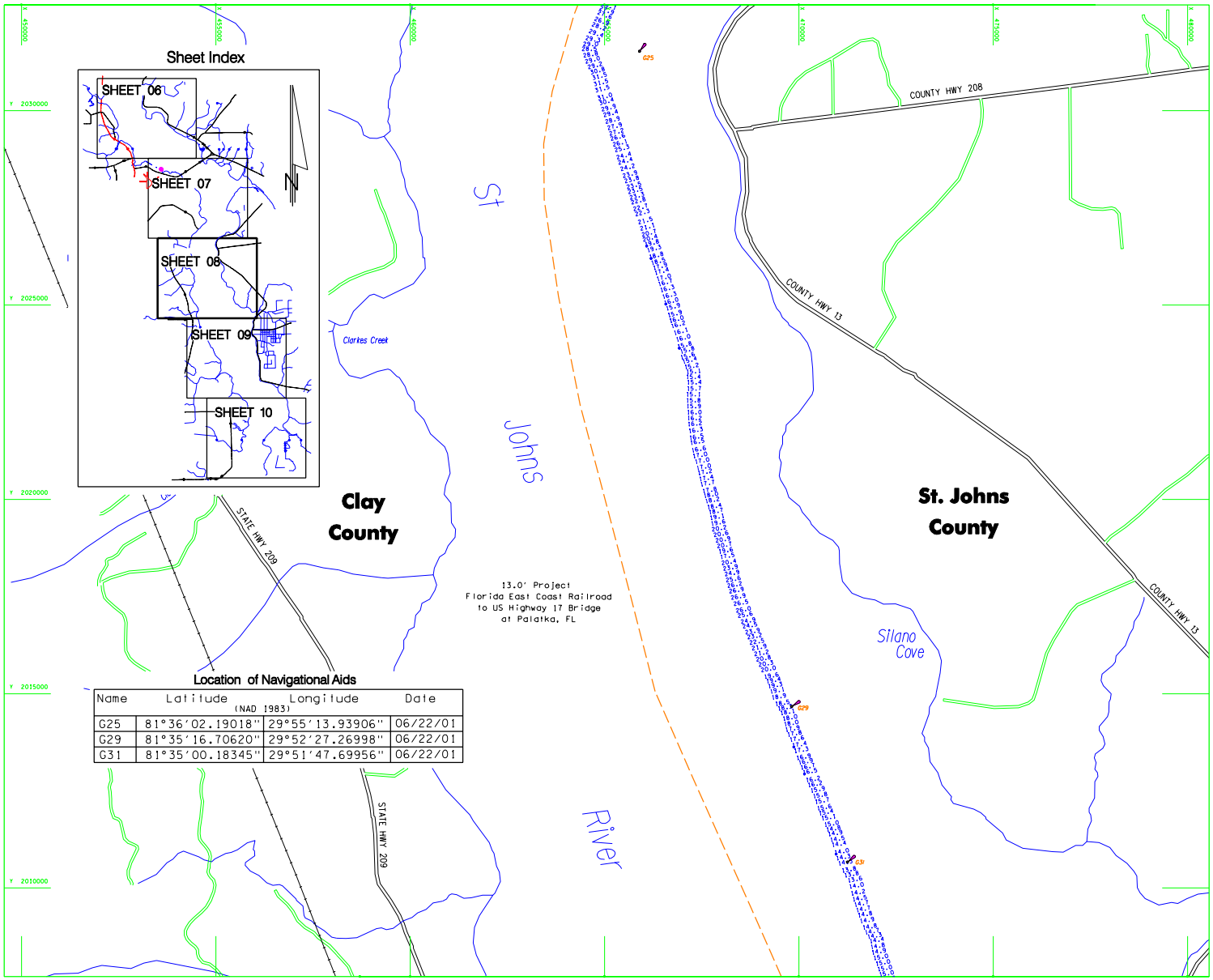

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G25	81°36'02.19018"	29°55'13.93906"	06/22/01
G29	81°35'16.70620"	29°52'27.26998"	06/22/01
G31	81°35'00.18345"	29°51'47.69956"	06/22/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
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Legend of Symbols

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	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

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JACKSONVILLE, FLORIDA

L.J. BARDEN AND ASSOCIATES
LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6688

O.O. FILE NO. 2-38,225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
08 / 44
SHEET 08 OF 44

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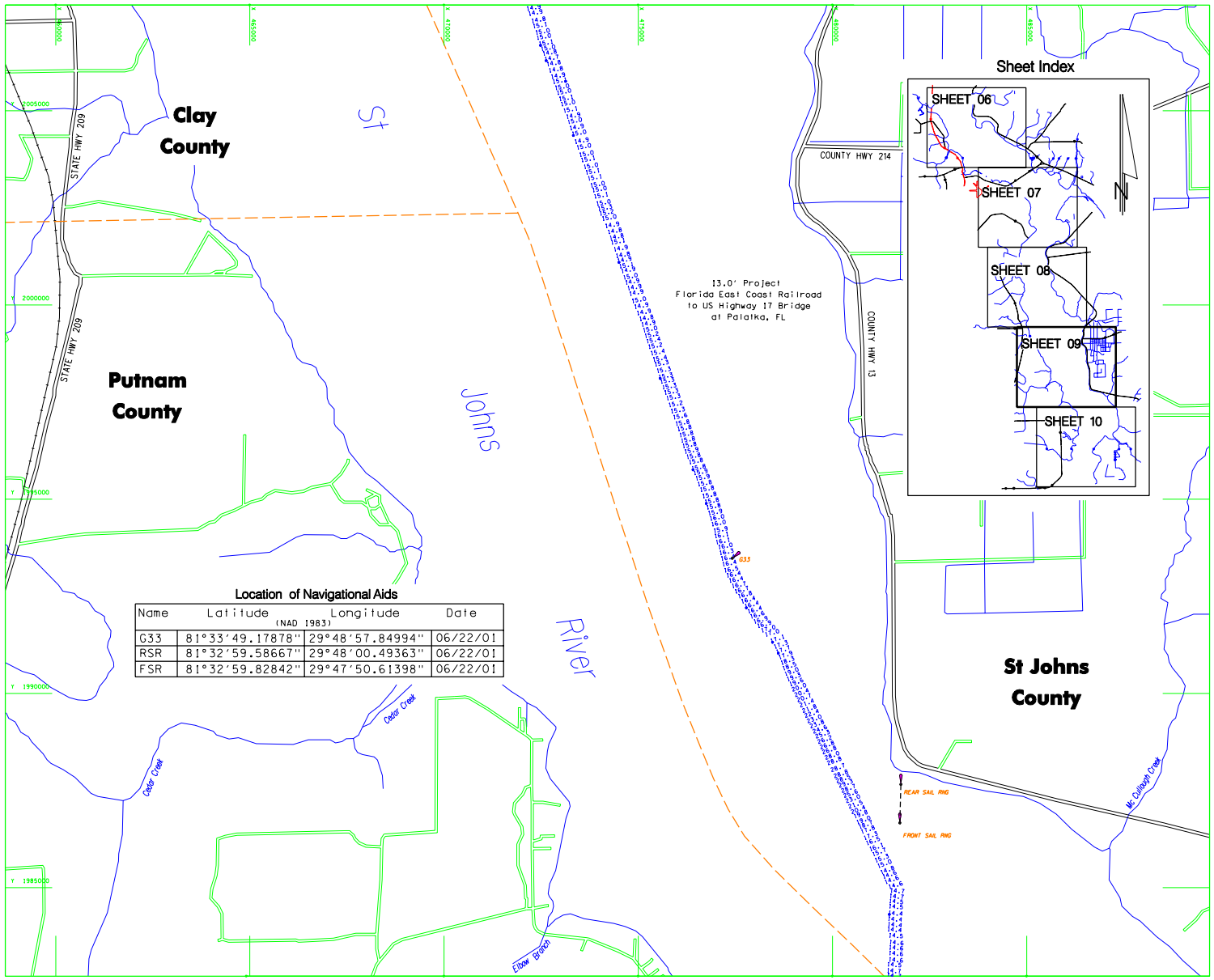

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G33	81°33'49.17878"	29°48'57.84994"	06/22/01
RSR	81°32'59.58667"	29°48'00.49363"	06/22/01
FSR	81°32'59.82842"	29°47'50.61398"	06/22/01

1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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Legend of Symbols

- BRIDGE FENDERS
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- RED LIGHTED BUOY
- GREEN LIGHTED BUOY
- RED AND GREEN DAYBEACON
- GREEN AND RED DAYBEACON
- RED DAYBEACON
- GREEN DAYBEACON
- COUNTY LINE

NOTES:
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2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY AND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: EXX
Dwn by: CHS
Ckd by: RJS
Inv. No. DACW17-99-D0045
Date: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Dated: XXXXXXX
D.O.FILE NO. 2-38,225

File name: C089_SH09.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
09 / 44

SHEET 09 OF 44

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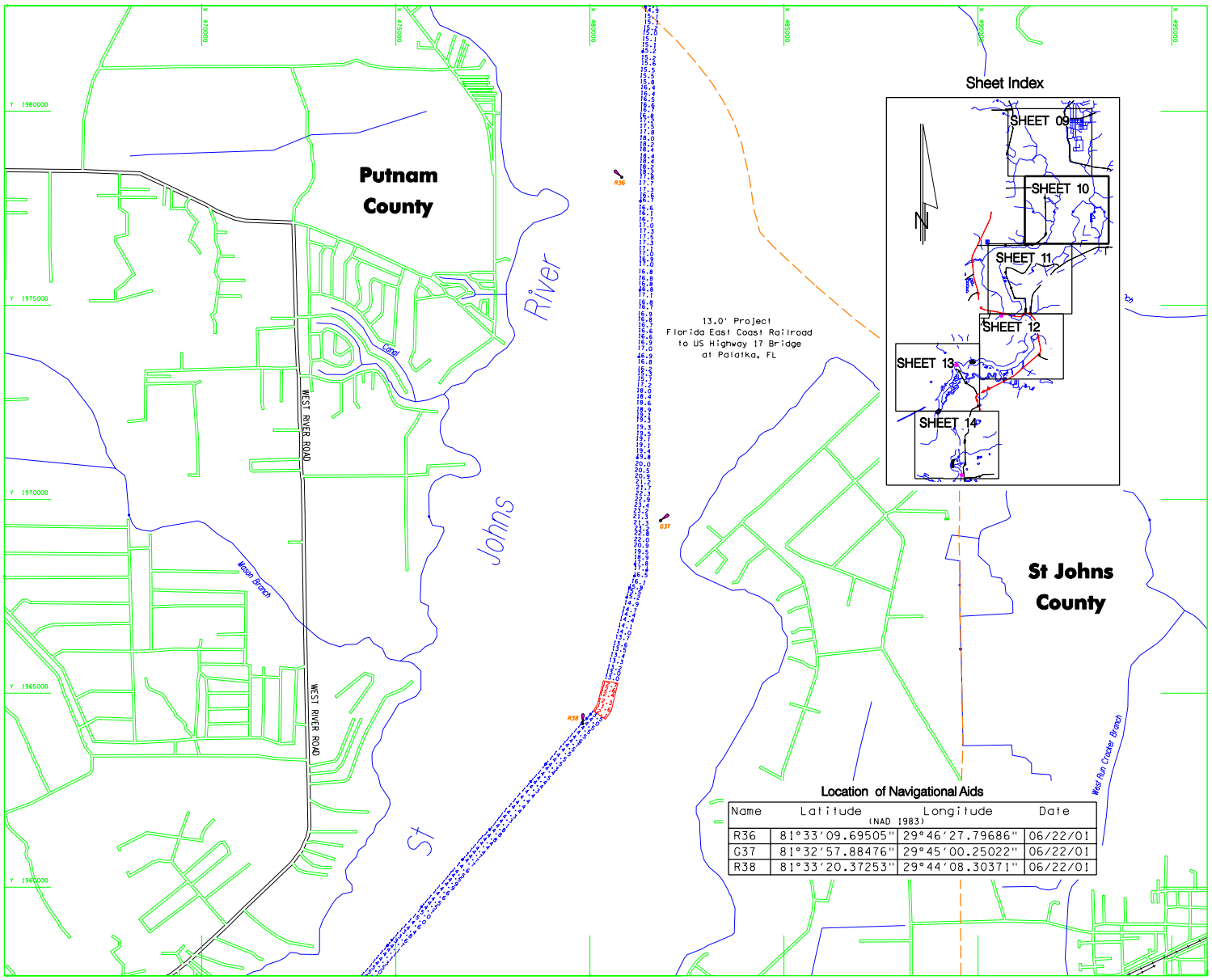

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R36	81°33'09.69505"	29°46'27.79686"	06/22/01
G37	81°32'57.88476"	29°45'00.25022"	06/22/01
R38	81°33'20.37253"	29°44'08.30371"	06/22/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
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RNG	REAR SAIL RANGE

Legend of Symbols

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	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

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JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

573 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS NO. 6868

L.J. BARCLAY LAND SURVEYORS

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Drawn by: XXX
Checked by: XXX
Date: XX/XX/XX
Plot date: 07/25/01
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Project No.: DACW17-96-D-0045
Contract No.: W XXX XX-XX-XXXX
D.O.F. FILE NO. 2-38,225

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C089.NAVAID
C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
10 / 44

SHEET 10 OF 44

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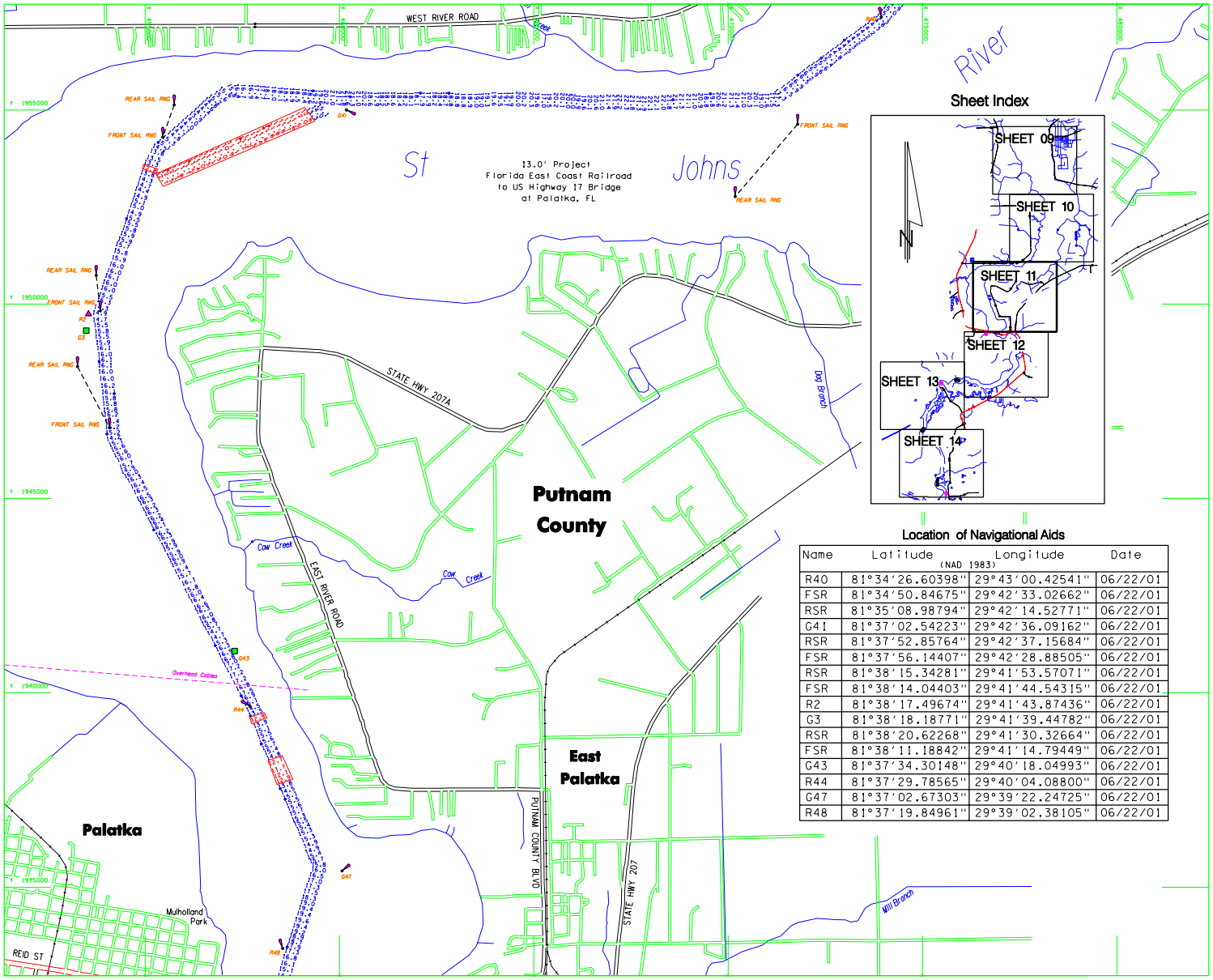


Sheet Index

Location of Navigational Aids

(NAD 1983)

Name	Latitude	Longitude	Date
R40	81°34'26.60398"	29°43'00.42541"	06/22/01
FSR	81°34'50.84675"	29°42'33.02662"	06/22/01
RSR	81°35'08.98794"	29°42'14.52771"	06/22/01
G41	81°37'02.54223"	29°42'36.09162"	06/22/01
RSR	81°37'52.85764"	29°42'37.15684"	06/22/01
FSR	81°37'56.14407"	29°42'28.88505"	06/22/01
RSR	81°38'15.34281"	29°41'53.57071"	06/22/01
FSR	81°38'14.04403"	29°41'44.54315"	06/22/01
R2	81°38'17.49674"	29°41'43.87436"	06/22/01
G3	81°38'18.18771"	29°41'39.44782"	06/22/01
RSR	81°38'20.62268"	29°41'30.32664"	06/22/01
FSR	81°38'11.18842"	29°41'14.79449"	06/22/01
G43	81°37'34.30148"	29°40'18.04993"	06/22/01
R44	81°37'29.78565"	29°40'04.08800"	06/22/01
G47	81°37'02.67303"	29°39'22.24725"	06/22/01
R48	81°37'19.84961"	29°39'02.38105"	06/22/01

1000 500 0 1000 2000
1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

- BRIDGE FENDERS
- LIGHT
- TIDE GAUGE
- RED LIGHTED BUOY
- GREEN LIGHTED BUOY
- RED AND GREEN DAYBEACON
- GREEN AND RED DAYBEACON
- RED DAYBEACON
- GREEN DAYBEACON
- COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: XXX
Dwn by: CHS
Ckd by: RJS
Inv. No. DACW17-99-0045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Dated: XXXXXXX
D.O.FILE NO. 2-38, 225

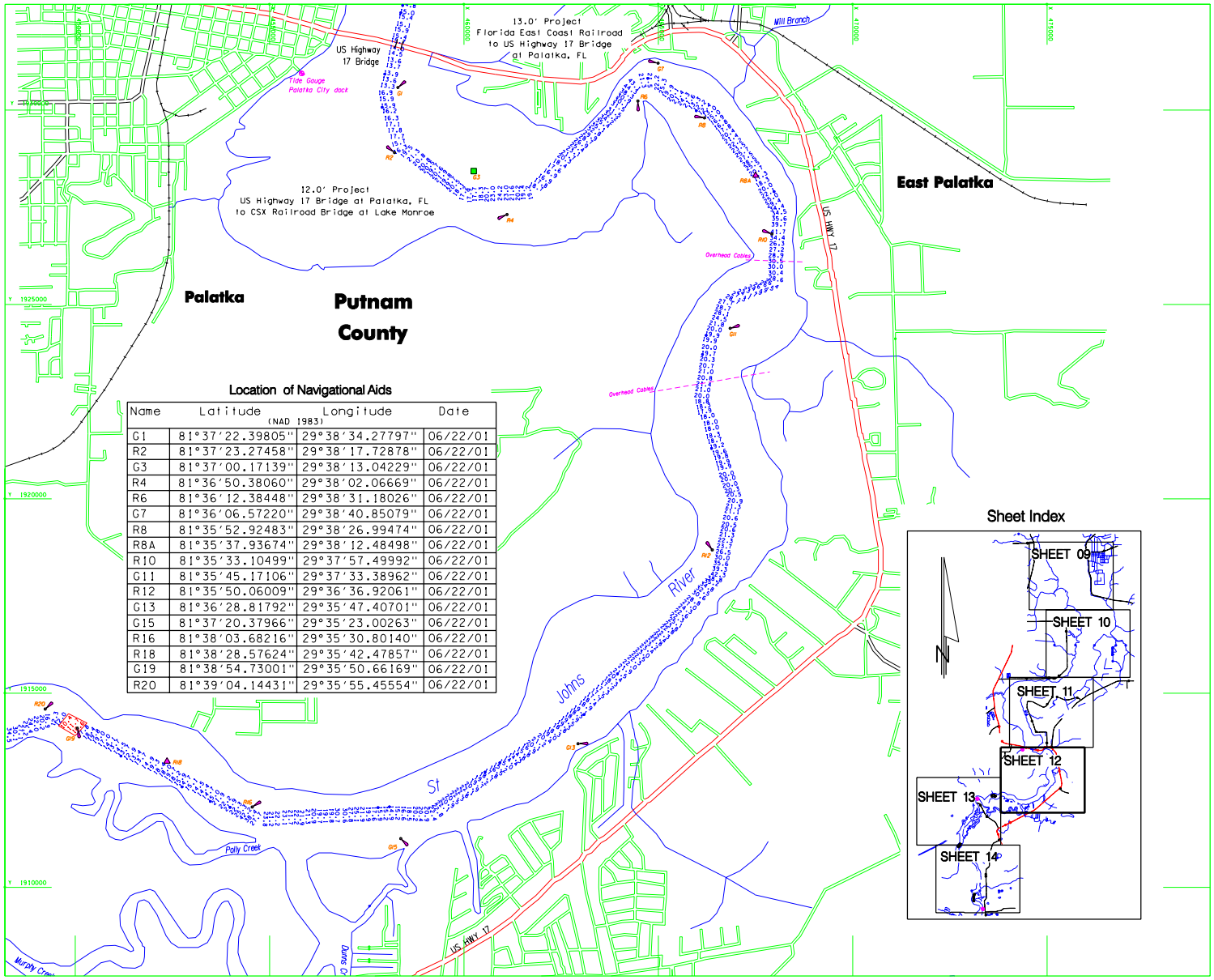
File name: C089_SH11.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
13 FOOT PROJECT
PLAN

DRAWING NO.
11 / 44

SHEET 11 OF 44

...\01-089\DGN\C089_SH11.dgn 08/27/01 08:17:39 AM



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G1	81°37'22.39805"	29°38'34.27797"	06/22/01
R2	81°37'23.27458"	29°38'17.72878"	06/22/01
G3	81°37'00.17139"	29°38'13.04229"	06/22/01
R4	81°36'50.38060"	29°38'02.06669"	06/22/01
R6	81°36'12.38448"	29°38'31.18026"	06/22/01
G7	81°36'06.57220"	29°38'40.85079"	06/22/01
R8	81°35'52.92483"	29°38'26.99474"	06/22/01
R8A	81°35'37.93674"	29°38'12.48498"	06/22/01
R10	81°35'33.10499"	29°37'57.49992"	06/22/01
G11	81°35'45.17106"	29°37'33.38962"	06/22/01
R12	81°35'50.06009"	29°36'36.92061"	06/22/01
G13	81°36'28.81792"	29°35'47.40701"	06/22/01
G15	81°37'20.37966"	29°35'23.00263"	06/22/01
R16	81°38'03.68216"	29°35'30.80140"	06/22/01
R18	81°38'28.57624"	29°35'42.47857"	06/22/01
G19	81°38'54.73001"	29°35'50.66169"	06/22/01
R20	81°39'04.14431"	29°35'55.45554"	06/22/01

Sheet Index

1000 500 0 1000 2000
1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

5773 NORMANDY BOULEVARD
JACKSONVILLE FLORIDA 32205
LICENSED BUSINESS No. 6808

L.A. BRADLEY
LAND SURVEYORS

Designed by XXX
Drawn by XXX
Checked by XXX
Date XX/XX/XX
Proj. No. DACW17-99-D-0045
Contract No. EAE 1999
Scale AS SHOWN
Plot date 07/25/01
Plot scale 1" = 2000'

F.S. name C089_SH12.DGN
Reference files C089.DFD C089_DUCS.DGN C089_NAVD C089.SL

D.O.FILE NO. 2-38, 225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE MARKET
PROJECT CONDITION SURVEY
13 AND 12 FOOT PROJECT
PLAN

DRAWING NO.
12 / 44
SHEET 12 OF 44

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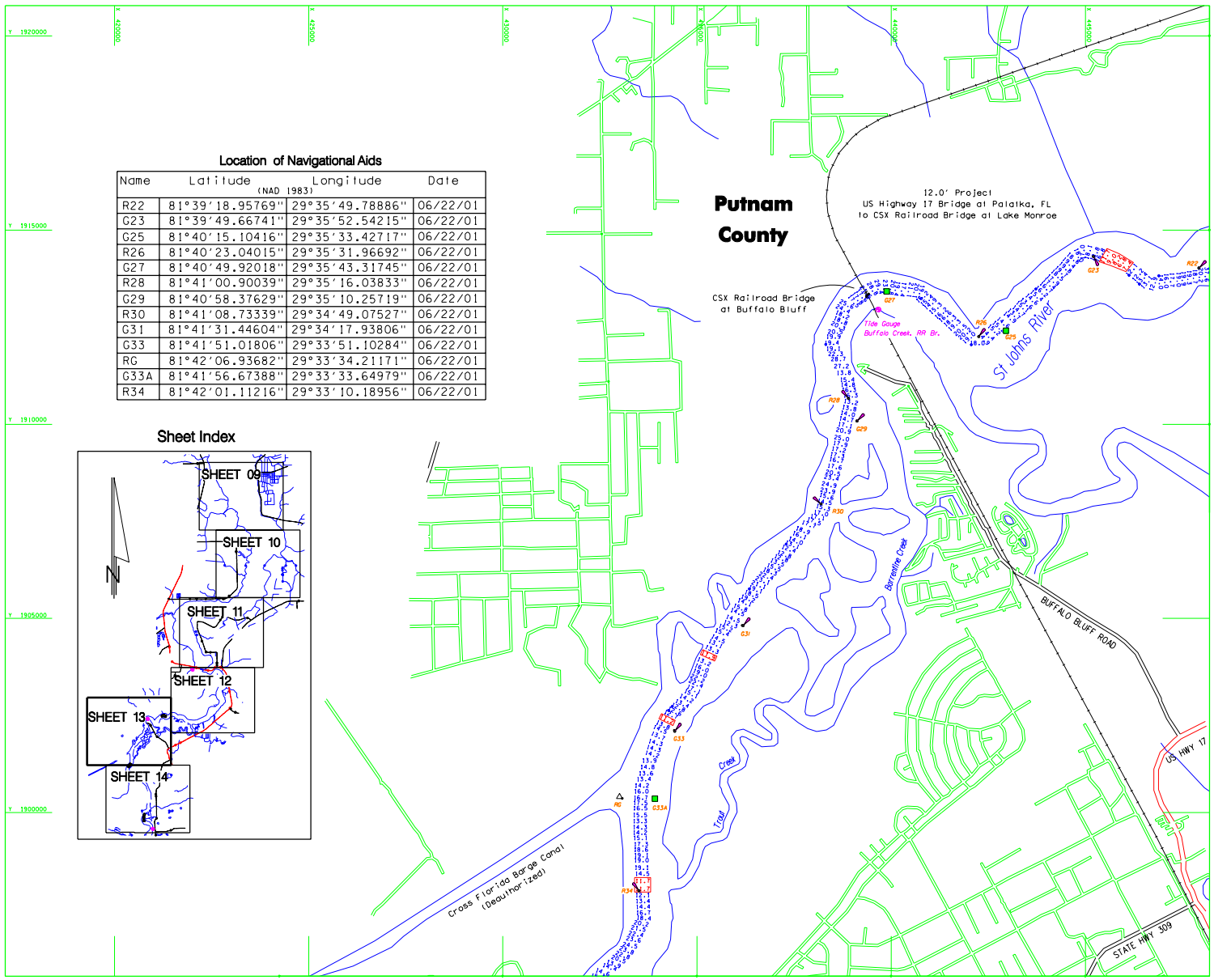
Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
R22	81°39'18.95769"	29°35'49.78886"	06/22/01
G23	81°39'49.66741"	29°35'52.54215"	06/22/01
G25	81°40'15.10416"	29°35'33.42717"	06/22/01
R26	81°40'23.04015"	29°35'31.96692"	06/22/01
G27	81°40'49.92018"	29°35'43.31745"	06/22/01
R28	81°41'00.90039"	29°35'16.03833"	06/22/01
G29	81°40'58.37629"	29°35'10.25719"	06/22/01
R30	81°41'08.73339"	29°34'49.07527"	06/22/01
G31	81°41'31.44604"	29°34'17.93806"	06/22/01
G33	81°41'51.01806"	29°33'51.10284"	06/22/01
RG	81°42'06.93682"	29°33'34.21171"	06/22/01
G33A	81°41'56.67388"	29°33'33.64979"	06/22/01
R34	81°42'01.11216"	29°33'10.18956"	06/22/01

Sheet Index



Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

5173 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6808

L.A. BRADLEY SURVEYORS AND MAPPERS

D.O.F. FILE NO. 2-38.225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
13 / 44
SHEET 13 OF 44

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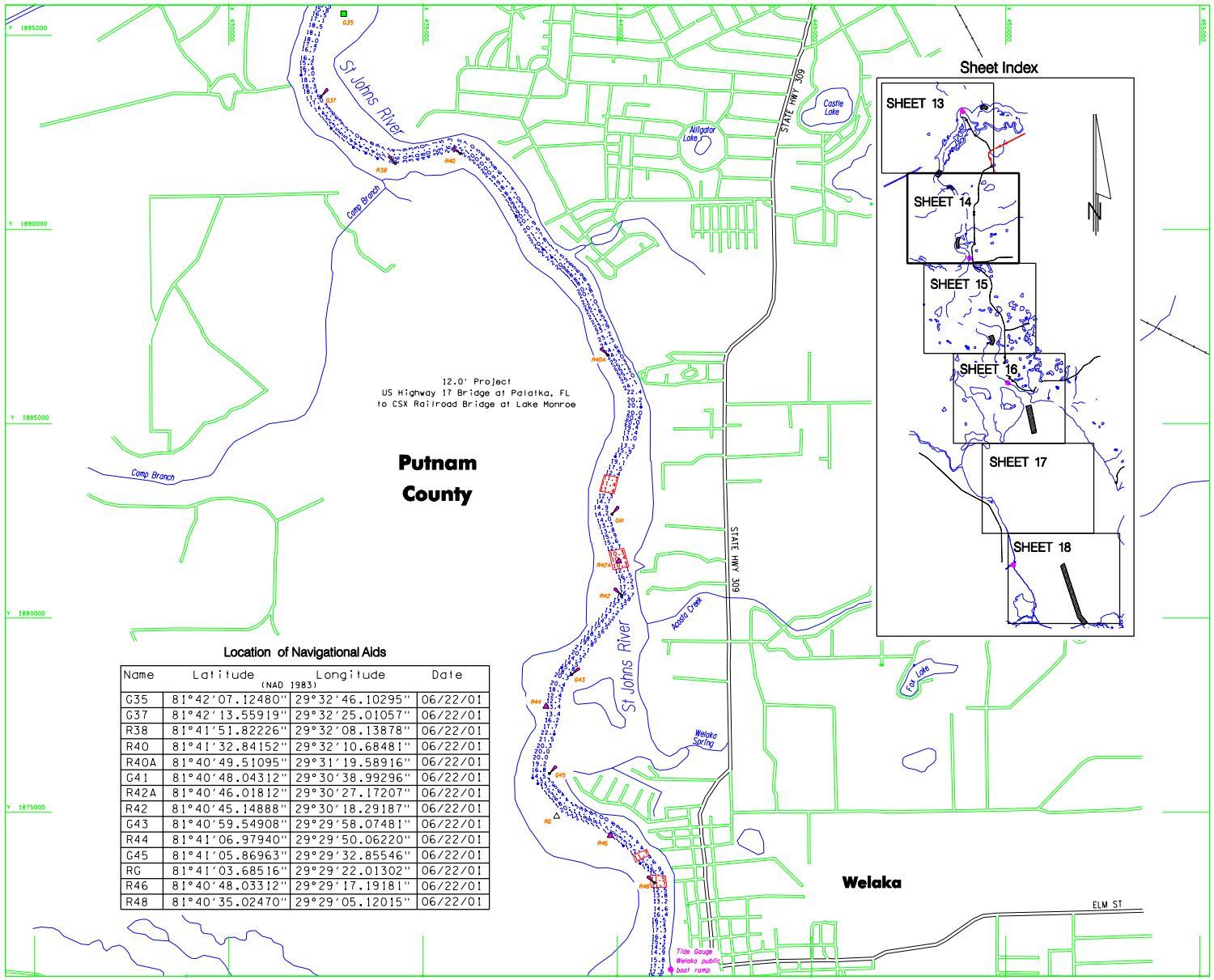

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G35	81°42'07.12480"	29°32'46.10295"	06/22/01
G37	81°42'13.55919"	29°32'25.01057"	06/22/01
R38	81°41'51.82226"	29°32'08.13878"	06/22/01
R40	81°41'32.84152"	29°32'10.68481"	06/22/01
R40A	81°40'49.51095"	29°31'19.58916"	06/22/01
G41	81°40'48.04312"	29°30'38.99296"	06/22/01
R42A	81°40'46.01812"	29°30'27.17207"	06/22/01
R42	81°40'45.14888"	29°30'18.29187"	06/22/01
G43	81°40'59.54908"	29°29'58.07481"	06/22/01
R44	81°41'06.97940"	29°29'50.06220"	06/22/01
G45	81°41'05.86963"	29°29'32.85546"	06/22/01
RG	81°41'03.68516"	29°29'22.01302"	06/22/01
R46	81°40'48.03312"	29°29'17.19181"	06/22/01
R48	81°40'35.02470"	29°29'05.12015"	06/22/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District
SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

J.A. BRADLEY AND ASSOCIATES
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6808

D.O.F. FILE NO. 2-38.225

ST. JOHNS RIVER FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
14 / 44
SHEET 14 OF 44

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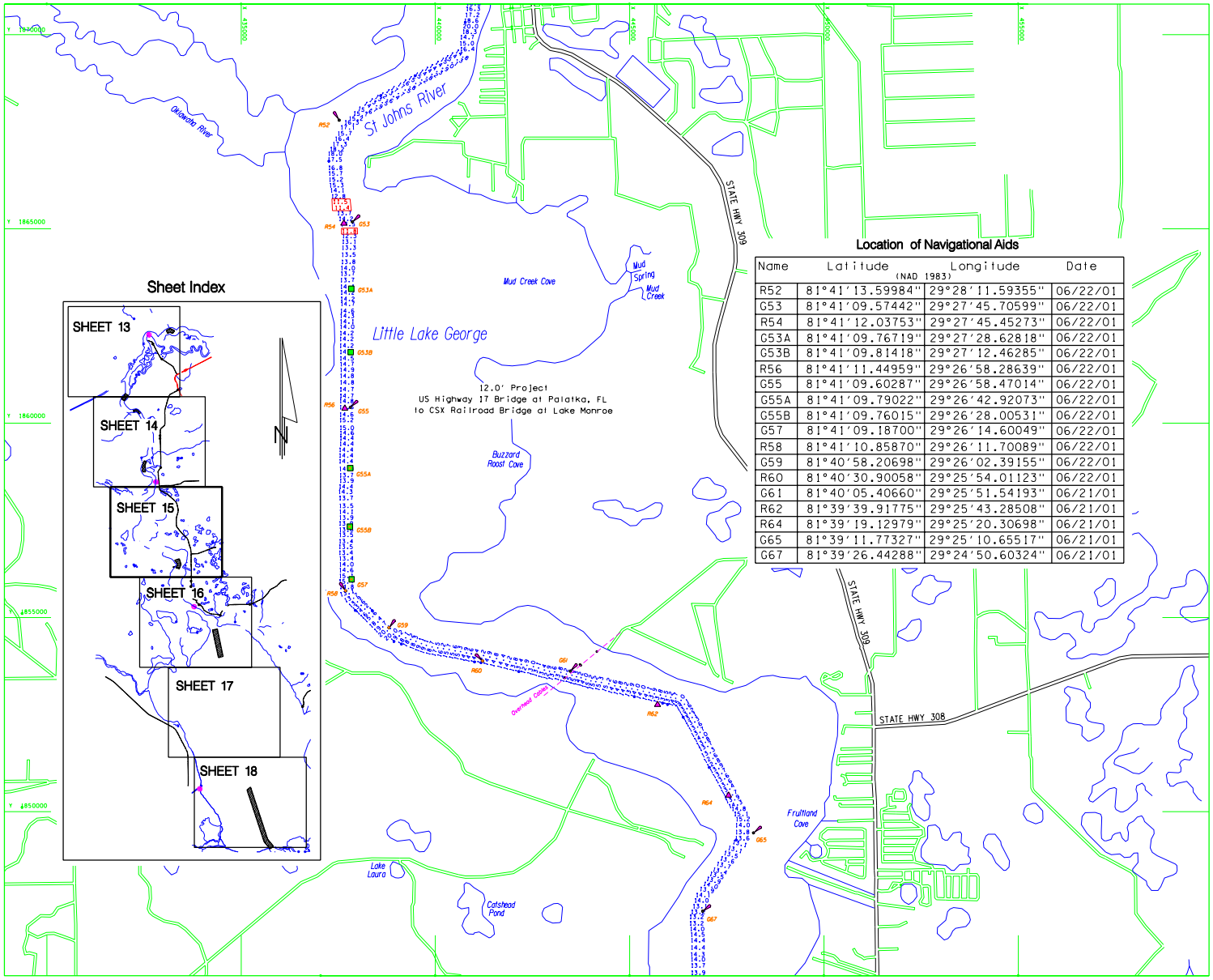

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
R52	81°41'13.59984"	29°28'11.59355"	06/22/01
G53	81°41'09.57442"	29°27'45.70599"	06/22/01
R54	81°41'12.03753"	29°27'45.45273"	06/22/01
G53A	81°41'09.76719"	29°27'28.62818"	06/22/01
G53B	81°41'09.81418"	29°27'12.46285"	06/22/01
R56	81°41'11.44959"	29°26'58.28639"	06/22/01
G55	81°41'09.60287"	29°26'58.47014"	06/22/01
G55A	81°41'09.79022"	29°26'42.92073"	06/22/01
G55B	81°41'09.76015"	29°26'28.00531"	06/22/01
G57	81°41'09.18700"	29°26'14.60049"	06/22/01
R58	81°41'10.85870"	29°26'11.70089"	06/22/01
G59	81°40'58.20698"	29°26'02.39155"	06/22/01
R60	81°40'30.90058"	29°25'54.01123"	06/22/01
G61	81°40'05.40660"	29°25'51.54193"	06/21/01
R62	81°39'39.91775"	29°25'43.28508"	06/21/01
R64	81°39'19.12979"	29°25'20.30698"	06/21/01
G65	81°39'11.77327"	29°25'10.65517"	06/21/01
G67	81°39'26.44288"	29°24'50.60324"	06/21/01

1000 500 0 1000 2000
1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
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Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
— —	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.D. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Inv. No. DACW17-99-0045
Date: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'

Designed by: KKK
Dwn by: CHS
Ckd by: BJS

File name: C089_SH15.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

Dated: XXXXXXX
D.O.FILE NO. 2-38,225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
15 / 44

SHEET 15 OF 44

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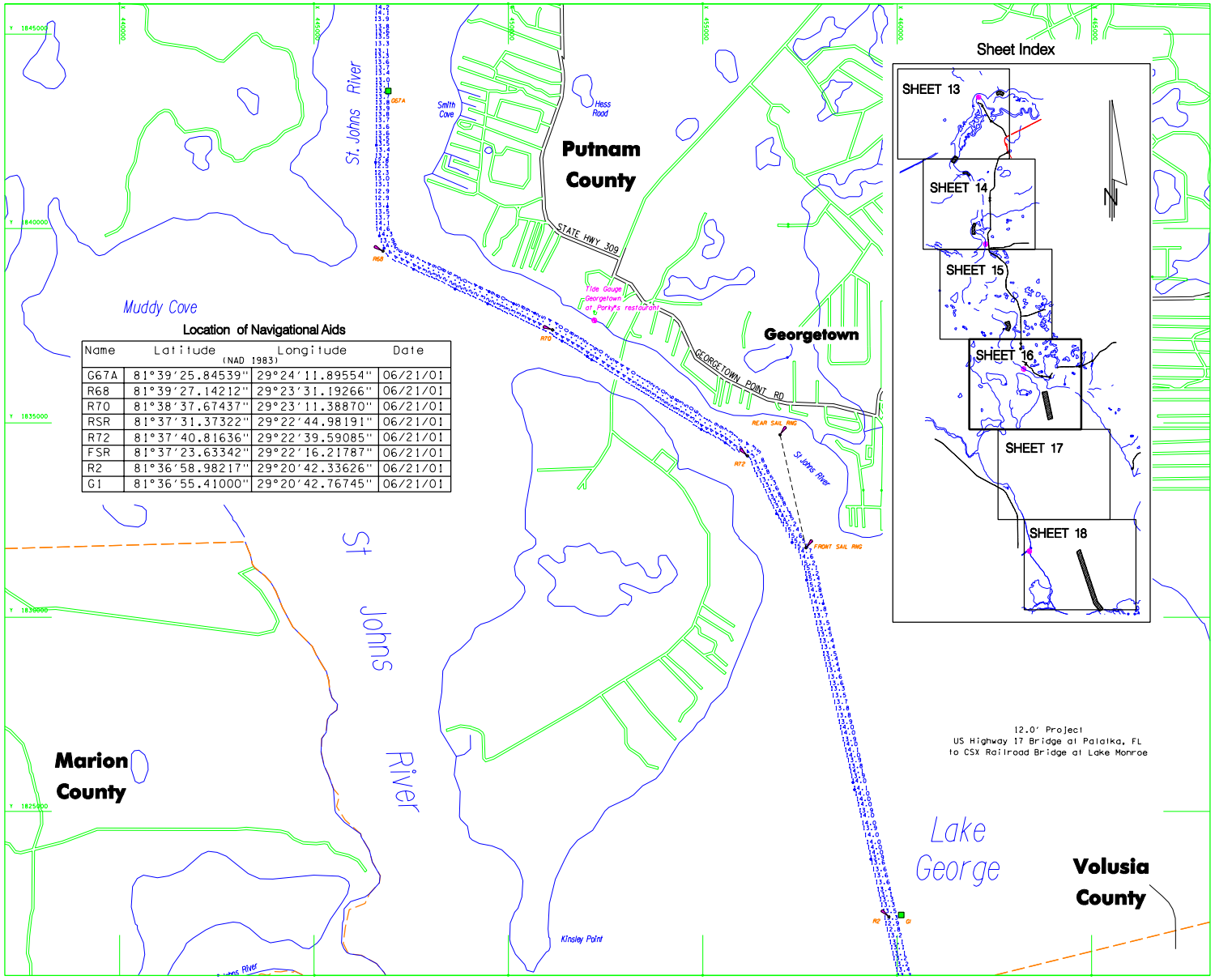

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G67A	81°39'25.84539"	29°24'11.89554"	06/21/01
R68	81°39'27.14212"	29°23'31.19266"	06/21/01
R70	81°38'37.67437"	29°23'11.38870"	06/21/01
RSR	81°37'31.37322"	29°22'44.98191"	06/21/01
R72	81°37'40.81636"	29°22'39.59085"	06/21/01
FSR	81°37'23.63342"	29°22'16.21787"	06/21/01
R2	81°36'58.98217"	29°20'42.33626"	06/21/01
G1	81°36'55.41000"	29°20'42.76745"	06/21/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
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RNG	REAR SAIL RANGE

Legend of Symbols

) (	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.B. BRADLEY AND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: XXX
Dwn by: CHS
Ckd by: RLS
Dwn No. DACW17-99-0045
Date: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Design: XXXXXXX
D.O. FILE NO. 2-38,225

File name: C089_SH16.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
16 / 44

SHEET 16 OF 44

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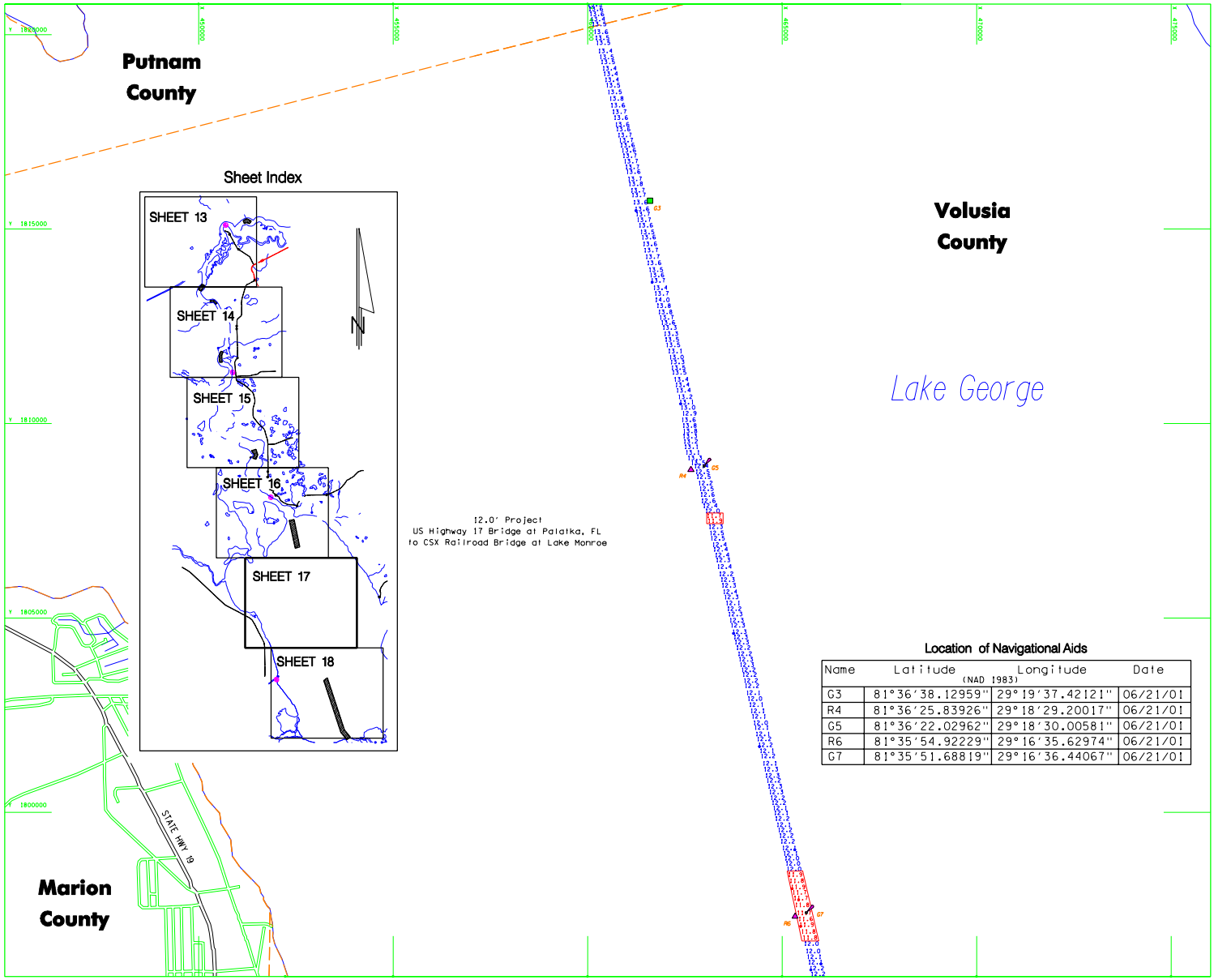

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G3	81°36'38.12959"	29°19'37.42121"	06/21/01
R4	81°36'25.83926"	29°18'29.20017"	06/21/01
G5	81°36'22.02962"	29°18'30.00581"	06/21/01
R6	81°35'54.92229"	29°16'35.62974"	06/21/01
G7	81°35'51.68819"	29°16'36.44067"	06/21/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
— —	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6688

Des. No. DACW17-99-D-0045
Design N. JAE 1999
Scale AS SHOWN
Plot date 07/25/01
Plot scale 1" = 2000'

Designed by XXX
Drawn by XXX
Checked by XXX
Quap XXXXXX

D.O.FILE NO. 2-38,225

File Name C089_SH17.DGN
Reference Files C089.DFD C089_DUKES C089_LAKE.DEV C089_NAVAD C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
17 / 44

SHEET 17 OF 44

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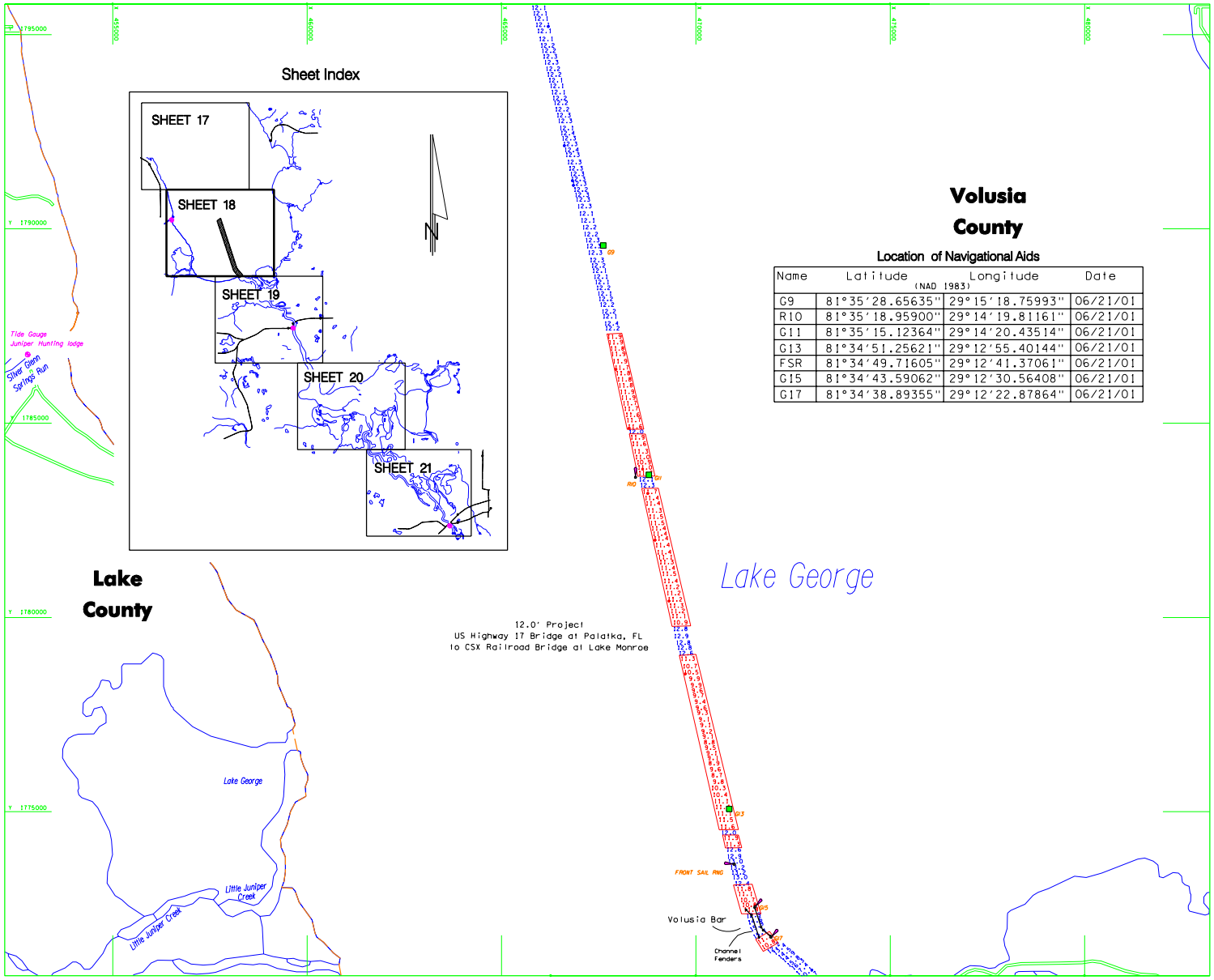

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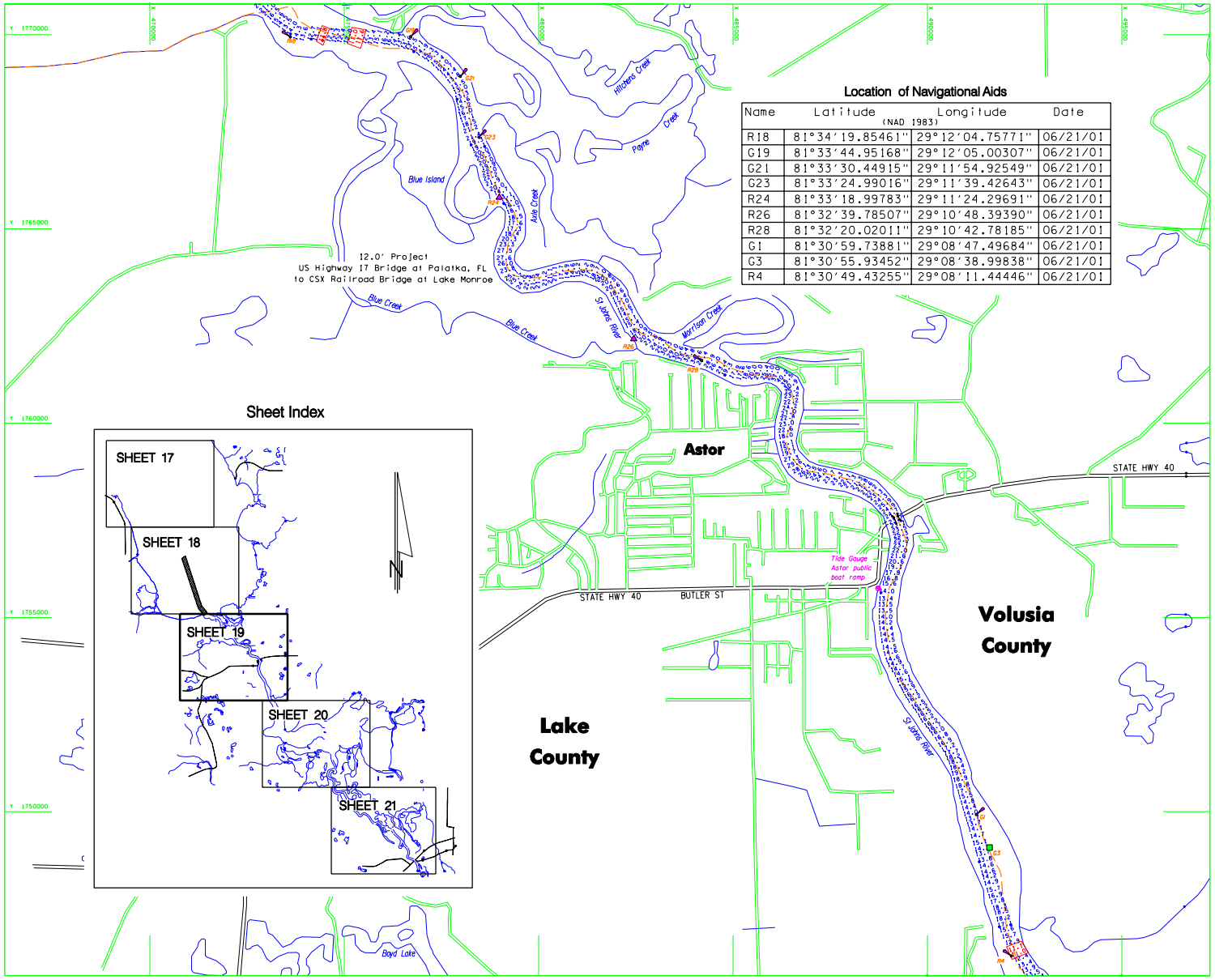

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R18	81°34'19.85461"	29°12'04.75771"	06/21/01
G19	81°33'44.95168"	29°12'05.00307"	06/21/01
G21	81°33'30.44915"	29°11'54.92549"	06/21/01
G23	81°33'24.99016"	29°11'39.42643"	06/21/01
R24	81°33'18.99783"	29°11'24.29691"	06/21/01
R26	81°32'39.78507"	29°10'48.39390"	06/21/01
R28	81°32'20.02011"	29°10'42.78185"	06/21/01
G1	81°30'59.73881"	29°08'47.49684"	06/21/01
G3	81°30'55.93452"	29°08'38.99838"	06/21/01
R4	81°30'49.43255"	29°08'11.44446"	06/21/01

1" = 1000' SCALE IN FEET

Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
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RNG	REAR SAIL RANGE

Legend of Symbols	
](	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

LJ BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6688

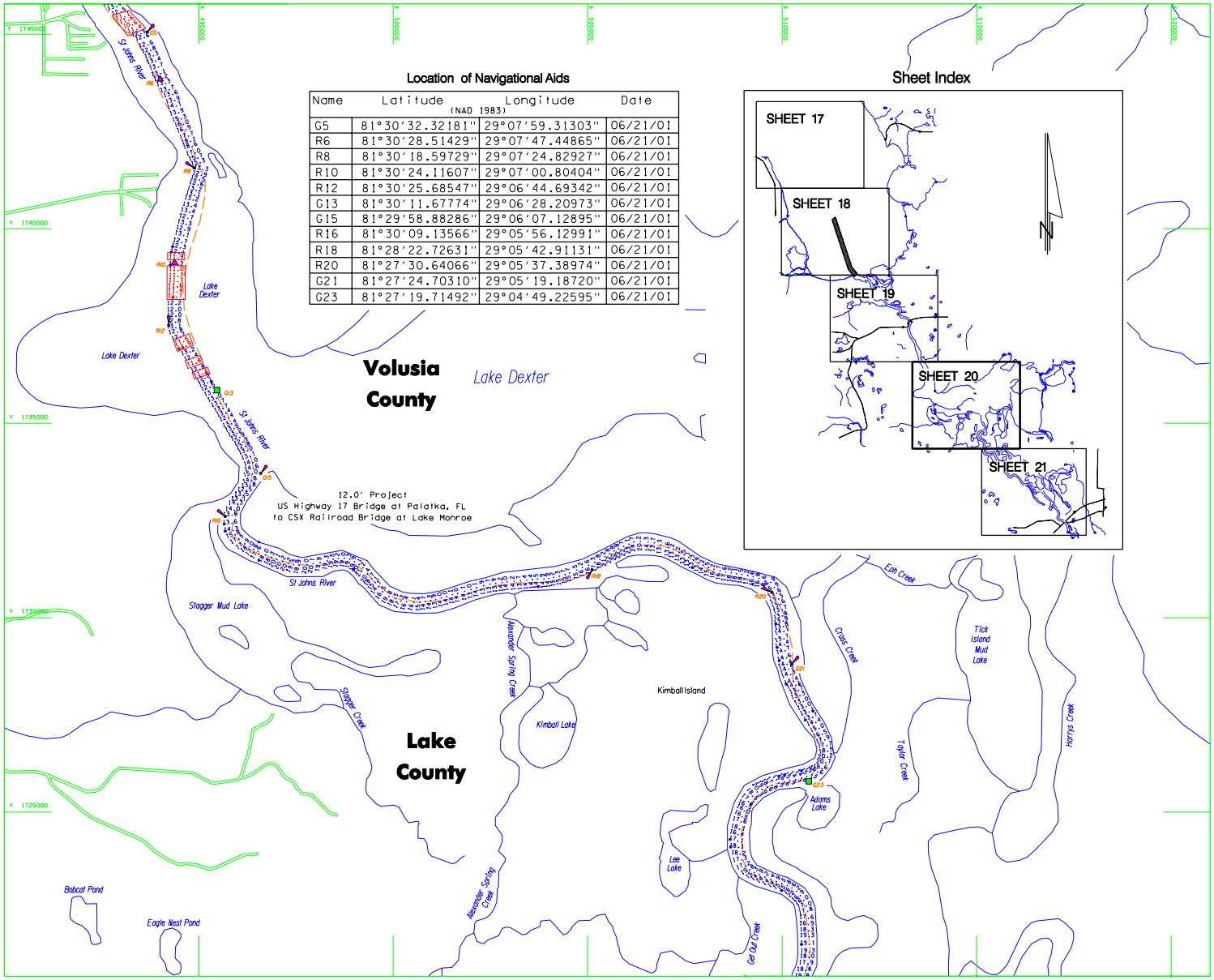
Des. No. DACW17-99-D-0045
Design N. AXE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Designed by XXX
Drawn by XXX
Check by XXX
Date XX/XX/XX
D.O.FILE NO. 2-38,225

File name: C089_SH19.DGN
Reference files: C089.SRD, C089_OUT.RPT, C089_HARM.DAT, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
19 / 44
SHEET 19 OF 44

...\01-089\DGN\C089_SH19.dgn 08/27/01 08:28:40 AM



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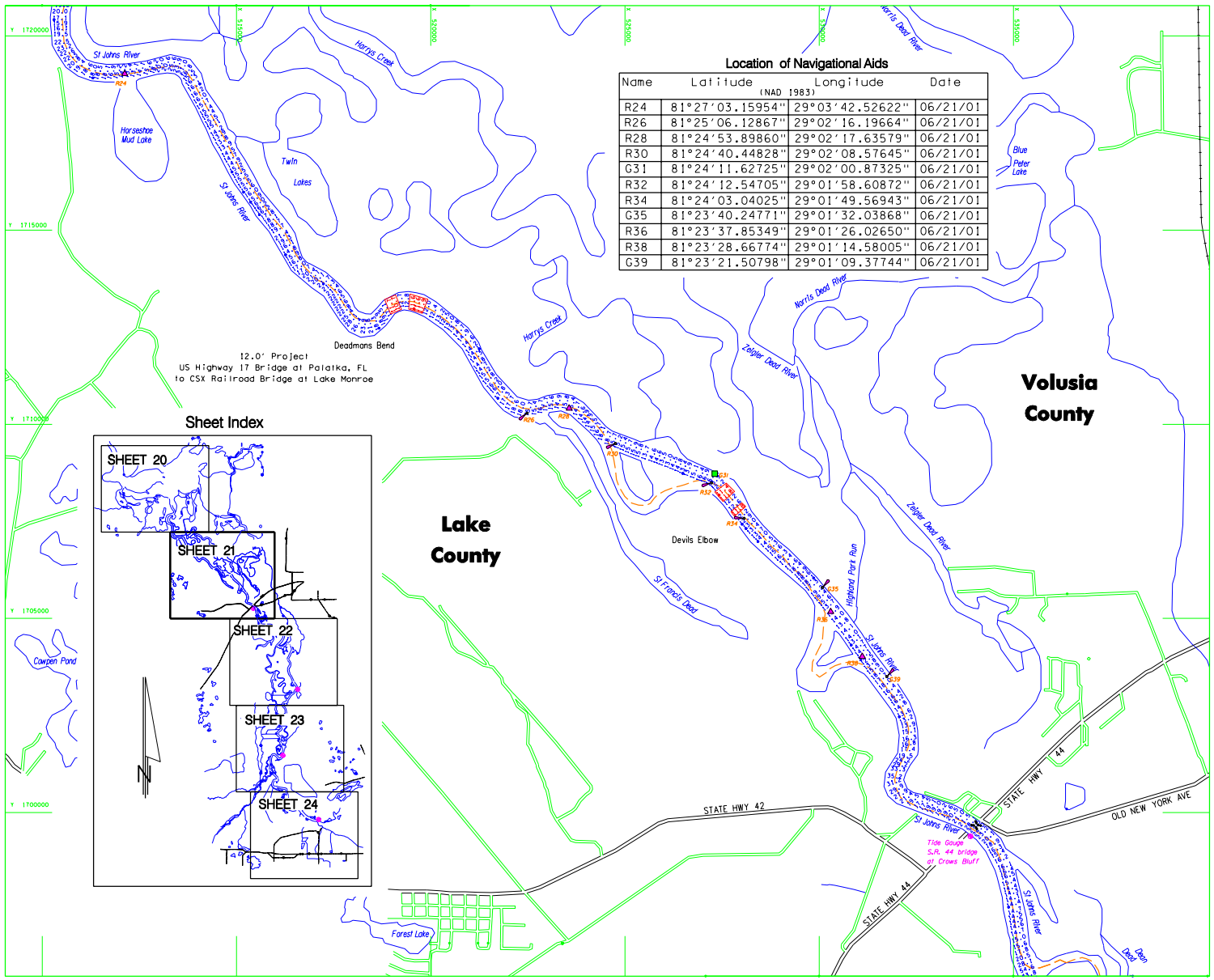

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R24	81°27'03.15954"	29°03'42.52622"	06/21/01
R26	81°25'06.12867"	29°02'16.19664"	06/21/01
R28	81°24'53.89860"	29°02'17.63579"	06/21/01
R30	81°24'40.44828"	29°02'08.57645"	06/21/01
G31	81°24'11.62725"	29°02'00.87325"	06/21/01
R32	81°24'12.54705"	29°01'58.60872"	06/21/01
R34	81°24'03.04025"	29°01'49.56943"	06/21/01
G35	81°23'40.24771"	29°01'32.03868"	06/21/01
R36	81°23'37.85349"	29°01'26.02650"	06/21/01
R38	81°23'28.66774"	29°01'14.58005"	06/21/01
G39	81°23'21.50798"	29°01'09.37744"	06/21/01

Sheet Index

Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6808

L.A. BRADLEY LAND SURVEYORS

D.O.F. FILE NO. 2-38.225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
21 / 44
SHEET 21 OF 44

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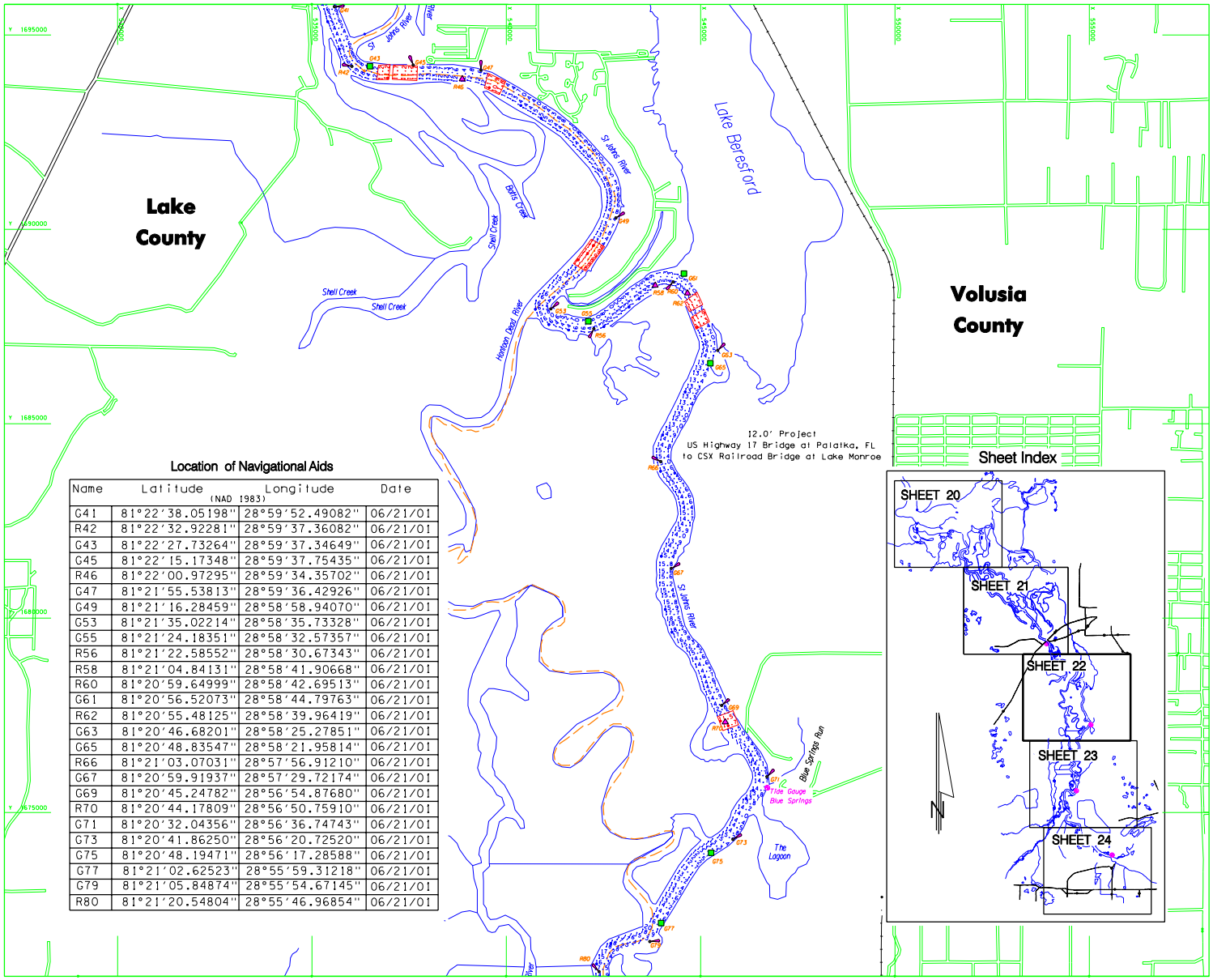

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G41	81°22'38.05198"	28°59'52.49082"	06/21/01
R42	81°22'32.92281"	28°59'37.36082"	06/21/01
G43	81°22'27.73264"	28°59'37.34649"	06/21/01
G45	81°22'15.17348"	28°59'37.75435"	06/21/01
R46	81°22'00.97295"	28°59'34.35702"	06/21/01
G47	81°21'55.53813"	28°59'36.42926"	06/21/01
G49	81°21'16.28459"	28°58'58.94070"	06/21/01
G53	81°21'35.02214"	28°58'35.73328"	06/21/01
G55	81°21'24.18351"	28°58'32.57357"	06/21/01
R56	81°21'22.58552"	28°58'30.67343"	06/21/01
R58	81°21'04.84131"	28°58'41.90668"	06/21/01
R60	81°20'59.64999"	28°58'42.69513"	06/21/01
G61	81°20'56.52073"	28°58'44.79763"	06/21/01
R62	81°20'55.48125"	28°58'39.96419"	06/21/01
G63	81°20'46.68201"	28°58'25.27851"	06/21/01
G65	81°20'48.83547"	28°58'21.95814"	06/21/01
R66	81°21'03.07031"	28°57'56.91210"	06/21/01
G67	81°20'59.91937"	28°57'29.72174"	06/21/01
G69	81°20'45.24782"	28°56'54.87680"	06/21/01
R70	81°20'44.17809"	28°56'50.75910"	06/21/01
G71	81°20'32.04356"	28°56'36.74743"	06/21/01
G73	81°20'41.86250"	28°56'20.72520"	06/21/01
G75	81°20'48.19471"	28°56'17.28588"	06/21/01
G77	81°21'02.62523"	28°55'59.31218"	06/21/01
G79	81°21'05.84874"	28°55'54.67145"	06/21/01
R80	81°21'20.54804"	28°55'46.96854"	06/21/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

](	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

J.D. BARNARD
LAND SURVEYORS
5973 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS NO. 6888

Designed by XXX
Drawn XXXXXX
Checked by XXX
Quality Assurance XXX
Approved XXX
Date XXXXXX
File number C089_SH22.DGN
Reference files C089_GEO, C089_DUKES, C089_CONTROL.DGN, C089_NAVAID, C089_SL
Plot date 07/25/01
Plot scale 1" = 2000'
Scale AS SHOWN
Date 06 JUNE 1999
File No. DACW17-99-D-0045

O.D. FILE NO. 2-38, 225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
22 / 44

SHEET 22 OF 44

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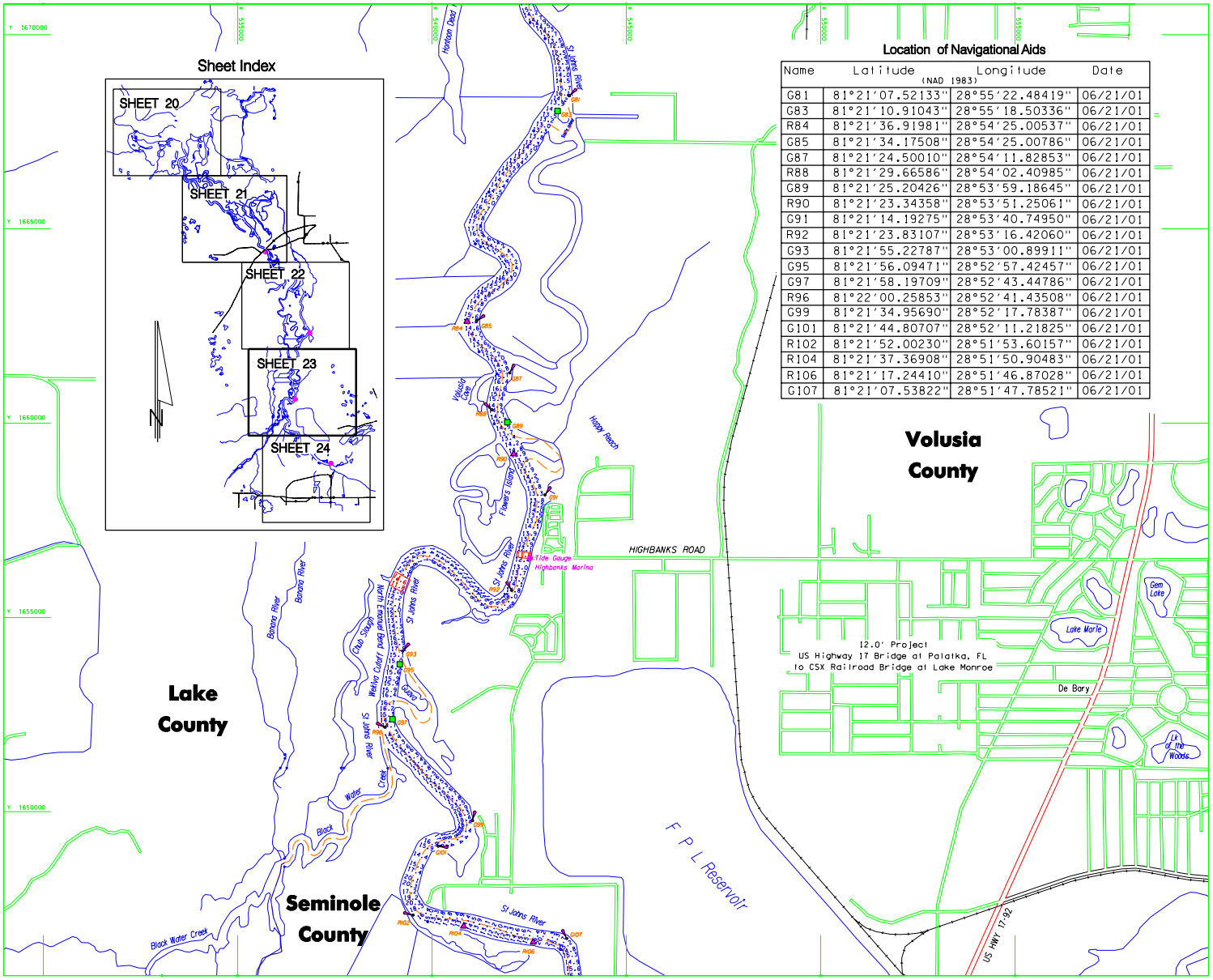

Name	Latitude (NAD 1983)	Longitude	Date
G81	81°21'07.52133"	28°55'22.48419"	06/21/01
G83	81°21'10.91043"	28°55'18.50336"	06/21/01
R84	81°21'36.91981"	28°54'25.00537"	06/21/01
G85	81°21'34.17508"	28°54'25.00786"	06/21/01
G87	81°21'24.50010"	28°54'11.82853"	06/21/01
R88	81°21'29.66586"	28°54'02.40985"	06/21/01
G89	81°21'25.20426"	28°53'59.18645"	06/21/01
R90	81°21'23.34358"	28°53'51.25061"	06/21/01
G91	81°21'14.19275"	28°53'40.74950"	06/21/01
R92	81°21'23.83107"	28°53'16.42060"	06/21/01
G93	81°21'55.22787"	28°53'00.89911"	06/21/01
G95	81°21'56.09471"	28°52'57.42457"	06/21/01
G97	81°21'58.19709"	28°52'43.44786"	06/21/01
R96	81°22'00.25853"	28°52'41.43508"	06/21/01
G99	81°21'34.95690"	28°52'17.78387"	06/21/01
G101	81°21'44.80707"	28°52'11.21825"	06/21/01
R102	81°21'52.00230"	28°51'53.60157"	06/21/01
R104	81°21'37.36908"	28°51'50.90483"	06/21/01
R106	81°21'17.24410"	28°51'46.87028"	06/21/01
G107	81°21'07.53822"	28°51'47.78521"	06/21/01

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
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BRIDGE FENDERS
LIGHT
TIDE GAUGE
RED LIGHTED BUOY
GREEN LIGHTED BUOY
RED AND GREEN DAYBEACON
GREEN AND RED DAYBEACON
RED DAYBEACON
GREEN DAYBEACON
COUNTY LINE

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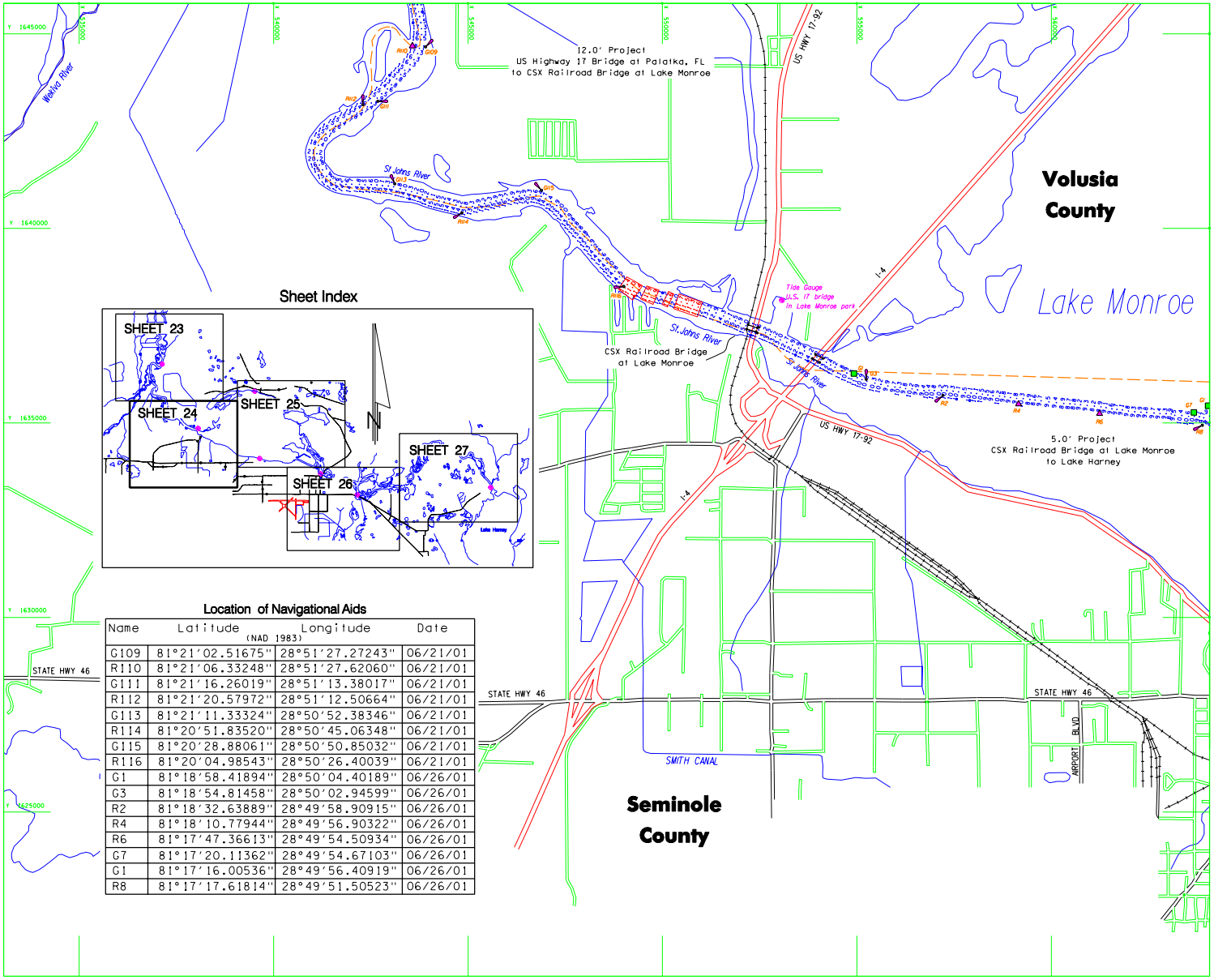

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G109	81°21'02.51675"	28°51'27.27243"	06/21/01
R110	81°21'06.33248"	28°51'27.62060"	06/21/01
G111	81°21'16.26019"	28°51'13.38017"	06/21/01
R112	81°21'20.57972"	28°51'12.50664"	06/21/01
G113	81°21'11.33324"	28°50'52.38346"	06/21/01
R114	81°20'51.83520"	28°50'45.06348"	06/21/01
G115	81°20'28.88061"	28°50'50.85032"	06/21/01
R116	81°20'04.98543"	28°50'26.40039"	06/21/01
G1	81°18'58.41894"	28°50'04.40189"	06/26/01
G3	81°18'54.81458"	28°50'02.94599"	06/26/01
R2	81°18'32.63889"	28°49'58.90915"	06/26/01
R4	81°18'10.77944"	28°49'56.90322"	06/26/01
R6	81°17'47.36613"	28°49'54.50934"	06/26/01
G7	81°17'20.11362"	28°49'54.67103"	06/26/01
G1	81°17'16.00536"	28°49'56.40919"	06/26/01
R8	81°17'17.61814"	28°49'51.50523"	06/26/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY
LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6808

D.O.F. FILE NO. 2-38.225

ST. JOHNS RIVER FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 AND 5 FOOT PROJECT
PLAN

DRAWING NO.
24 / 44
SHEET 24 OF 44

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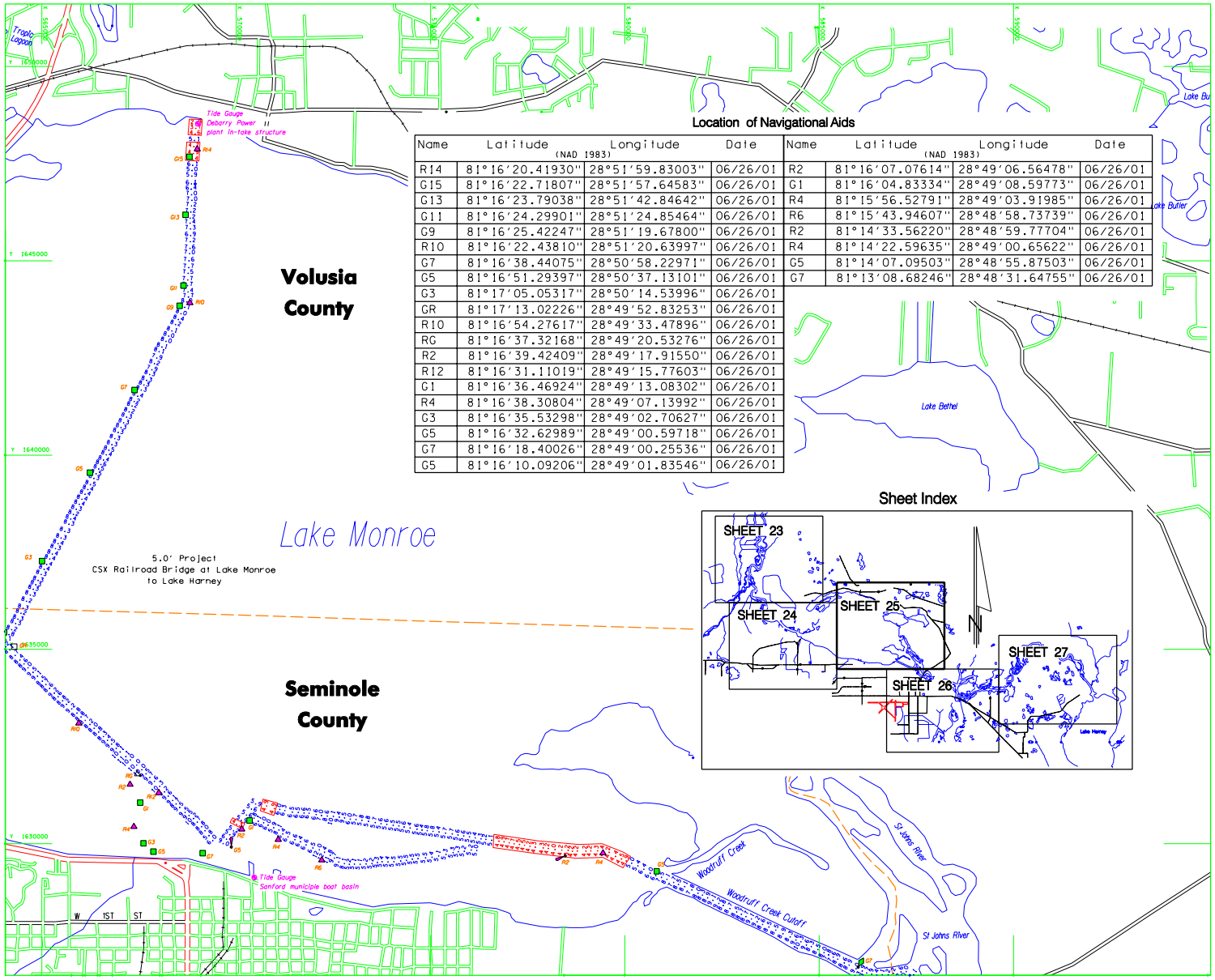

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R14	81°16'20.41930"	28°51'59.83003"	06/26/01
G15	81°16'22.71807"	28°51'57.64583"	06/26/01
G13	81°16'23.79038"	28°51'42.84642"	06/26/01
G11	81°16'24.29901"	28°51'24.85464"	06/26/01
G9	81°16'25.42247"	28°51'19.67800"	06/26/01
R10	81°16'22.43810"	28°51'20.63997"	06/26/01
G7	81°16'38.44075"	28°50'58.22971"	06/26/01
G5	81°16'51.29397"	28°50'37.13101"	06/26/01
G3	81°17'05.05317"	28°50'14.53996"	06/26/01
GR	81°17'13.02226"	28°49'52.83253"	06/26/01
R10	81°16'54.27617"	28°49'33.47896"	06/26/01
RG	81°16'37.32168"	28°49'20.53276"	06/26/01
R2	81°16'39.42409"	28°49'17.91550"	06/26/01
R12	81°16'31.11019"	28°49'15.77603"	06/26/01
G1	81°16'36.46924"	28°49'13.08302"	06/26/01
R4	81°16'38.30804"	28°49'07.13992"	06/26/01
G3	81°16'35.53298"	28°49'02.70627"	06/26/01
G5	81°16'32.62989"	28°49'00.59718"	06/26/01
G7	81°16'18.40026"	28°49'00.25536"	06/26/01
G5	81°16'10.09206"	28°49'01.83546"	06/26/01

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R2	81°16'07.07614"	28°49'06.56478"	06/26/01
G1	81°16'04.83334"	28°49'08.59773"	06/26/01
R4	81°15'56.52791"	28°49'03.91985"	06/26/01
R6	81°15'43.94607"	28°48'58.73739"	06/26/01
R2	81°14'33.56220"	28°48'59.77704"	06/26/01
R4	81°14'22.59635"	28°49'00.65622"	06/26/01
G5	81°14'07.09503"	28°48'55.87503"	06/26/01
G7	81°13'08.68246"	28°48'31.64755"	06/26/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
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Legend of Symbols

- BRIDGE FENDERS
- LIGHT
- TIDE GAUGE
- RED LIGHTED BUOY
- GREEN LIGHTED BUOY
- RED AND GREEN DAYBEACON
- GREEN AND RED DAYBEACON
- RED DAYBEACON
- GREEN DAYBEACON
- COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.O. BRADLEY AND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: XXX
Dwn by: CHS
Ckd by: RJS
Rev. No. DACW17-99-D045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Dated: XXXXXXXX
D.O.FILE NO. 2-38, 225

File name: C089_SH25.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
5 FOOT PROJECT
PLAN

DRAWING NO.
25 / 44

SHEET 25 OF 44

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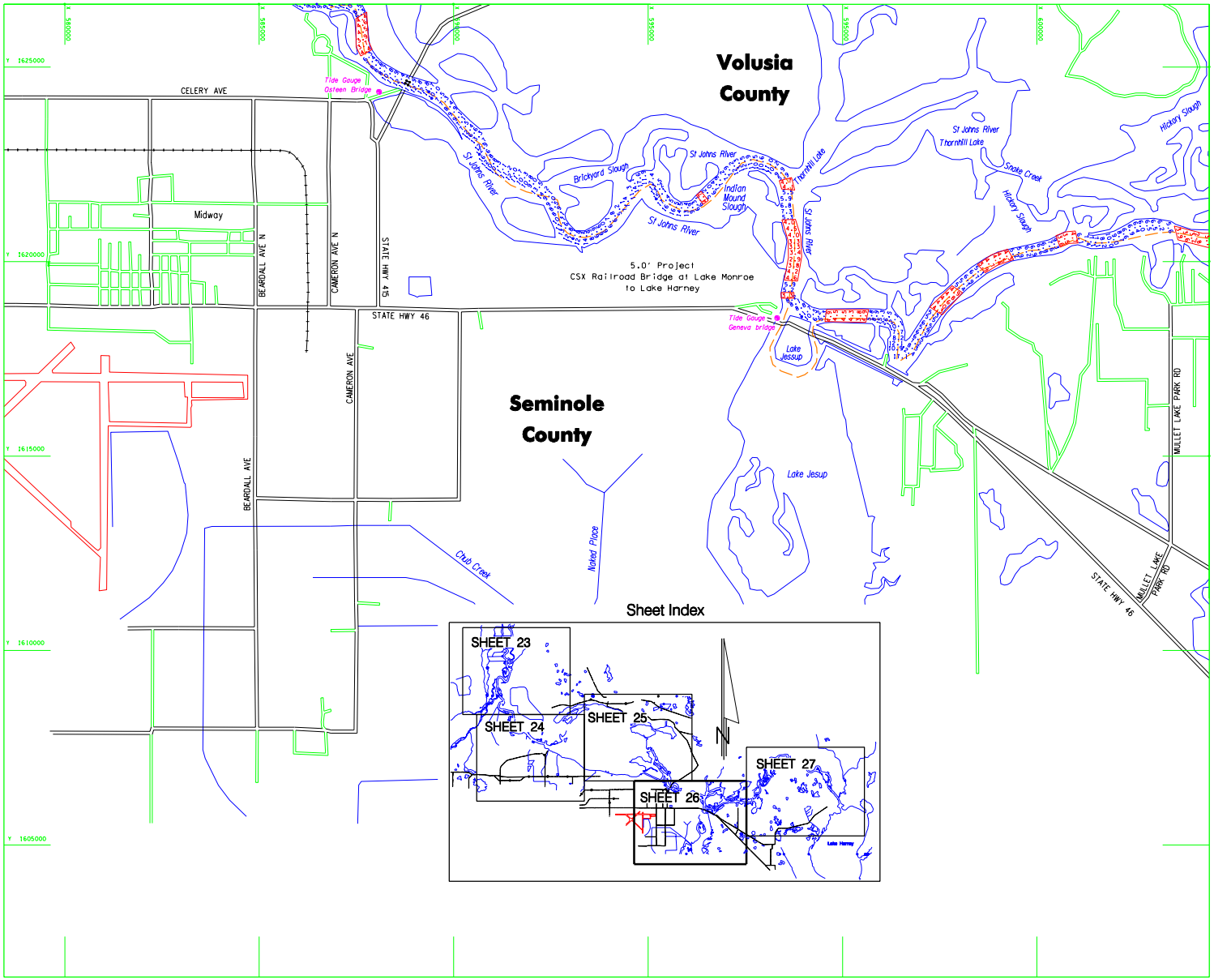

1" = 1000'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
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Legend of Symbols

)(	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
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	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
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2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Inv. No. DACW17-99-0045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'

Designed by: KXX
Dwn by: CHS
Ckd by: RJS
Date: XXXXXXX
D.O.FILE NO. 2-38, 225

File name: C089_SH26.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_MAVAD, C089_SL

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
5 FOOT PROJECT
PLAN

DRAWING NO.
26 / 44

SHEET 26 OF 44

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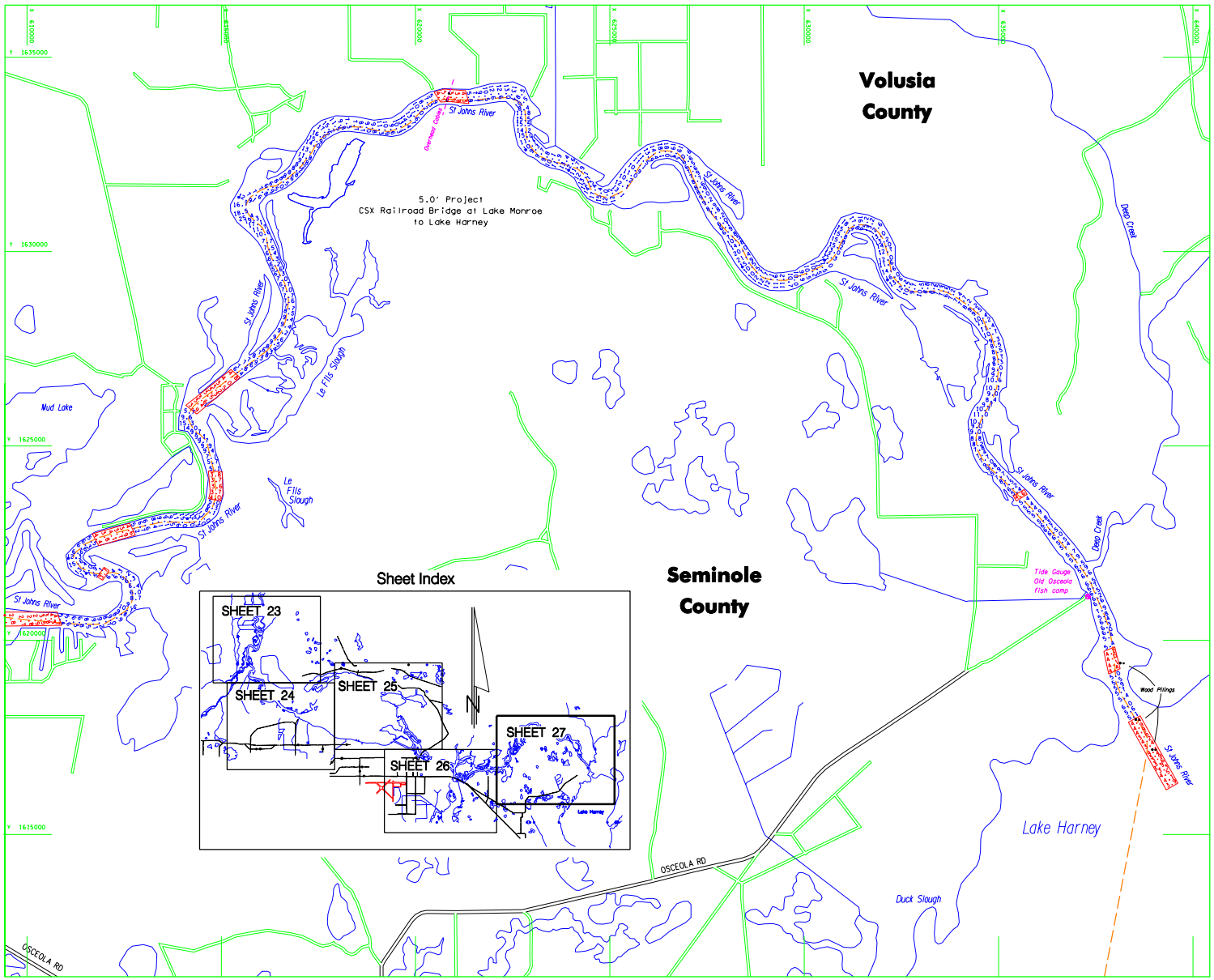

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
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Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
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	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.A. BRADLEY
LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: KKK
Dwn by: CHS
Ckd by: RJS
Dwn. No. DACW17-99-D045
Dated: 15 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 2000'
Dated: XXXXXXX
D.O.FILE NO. 2-38,225

File name: C089_SH27.DGN
Reference files: C089_BRD, C089_QUADS, C089_CL_ELEV, C089_NAVAD, C089_SL

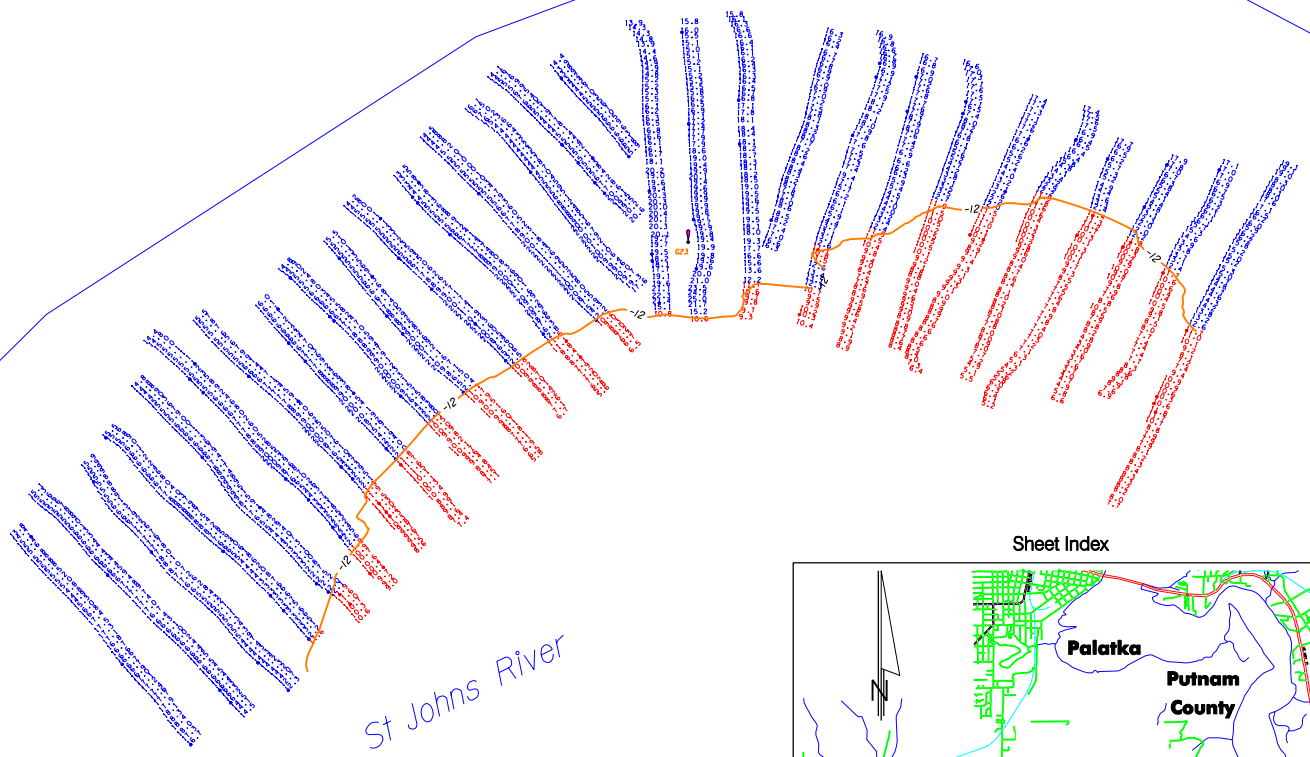
ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
5 FOOT PROJECT
PLAN

DRAWING NO.
27 / 44

SHEET 27 OF 44

...\01-089\DGN\C089_SH27.dgn 08/27/01 09:13:23 AM

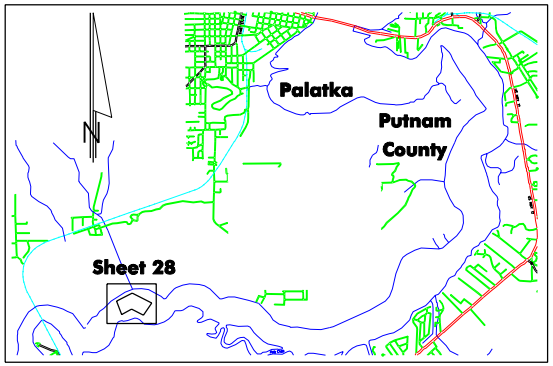
Cross Section Area "2"



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G23	81°39'49.66741"	29°35'52.54215"	06/22/01

Sheet Index



Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BARDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38.225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
28 / 44
SHEET 28 OF 44

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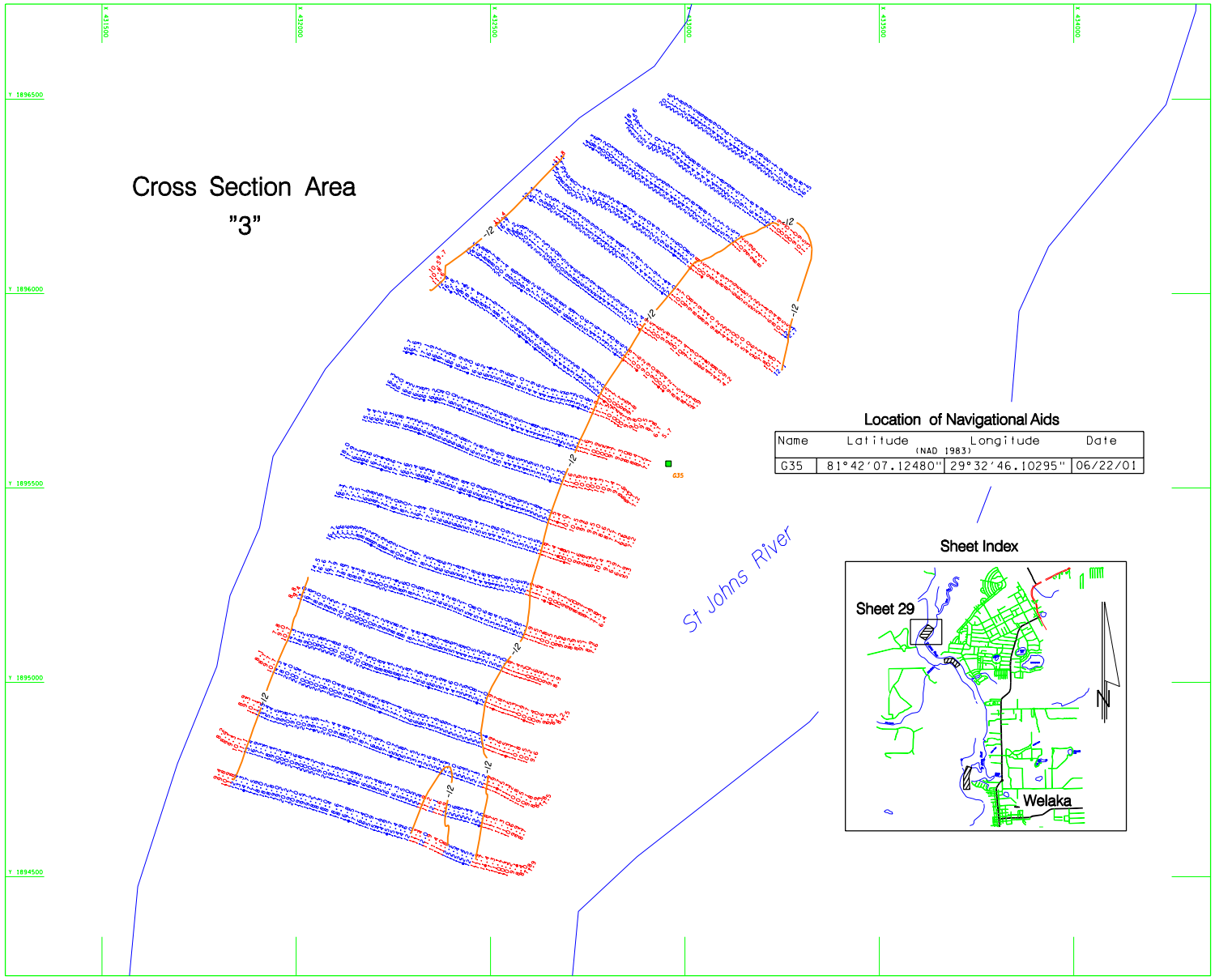

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G35	81°42'07.12480"	29°32'46.10295"	06/22/01

Sheet Index

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
573 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.F.ILE NO. 2-38.225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
29 / 44
SHEET 29 OF 44

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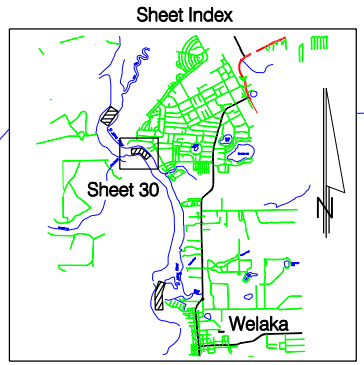
Cross Section Area "4"

St Johns River



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
R40	81°41'32.84152"	29°32'10.68481"	06/22/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

BRIDGE FENDERS
LIGHT
TIDE GAUGE
RED LIGHTED BUOY
GREEN LIGHTED BUOY
RED AND GREEN DAYBEACON
GREEN AND RED DAYBEACON
RED DAYBEACON
GREEN DAYBEACON
COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BARDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6868

Des. No. DACW17-99-D-0005
Date: 16 JAN 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'
Designed by: KEE
Drawn by: DLS
Chkd by: DLS
Quad: XXXXXXX
D.O.F.I.L.E NO. 2-30.225

File name: C089-SH30.DGN
Reference files: C089.DGN, C089-XS.CLV, C089-XS.2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
30 / 44
SHEET 30 OF 44

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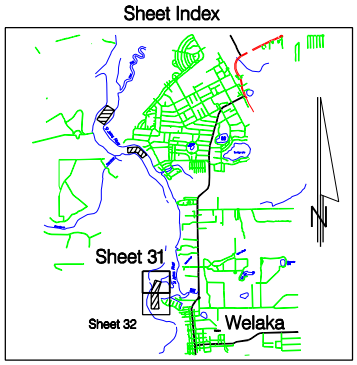

Cross Section Area "5"

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G43	81°40'59.54908"	29°29'58.07481"	06/22/01
R44	81°41'06.97940"	29°29'50.06220"	06/22/01

Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BARCLAY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38,225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
31 / 44
SHEET 31 OF 44

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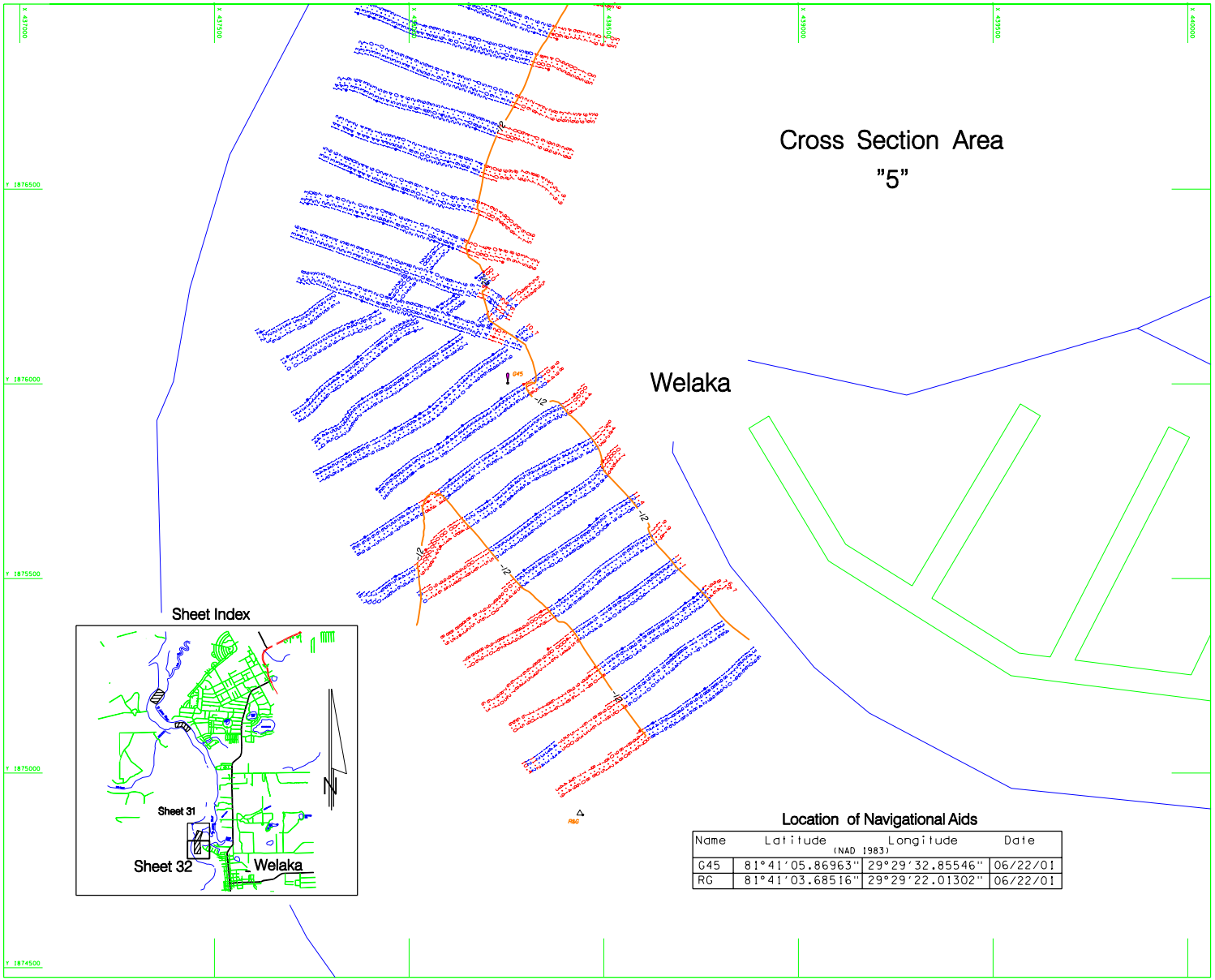


Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G45	81°41'05.86963"	29°29'32.85546"	06/22/01
RG	81°41'03.68516"	29°29'22.01302"	06/22/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Des. No. DACW17-99-D-0005
Dates: 16 JAN 1999
Super: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'

Designed by: KEX
Drawn by: KEX
Chkd by: KEX
Dates: XXXXXXX

D.O.FILE NO. 2-38.225

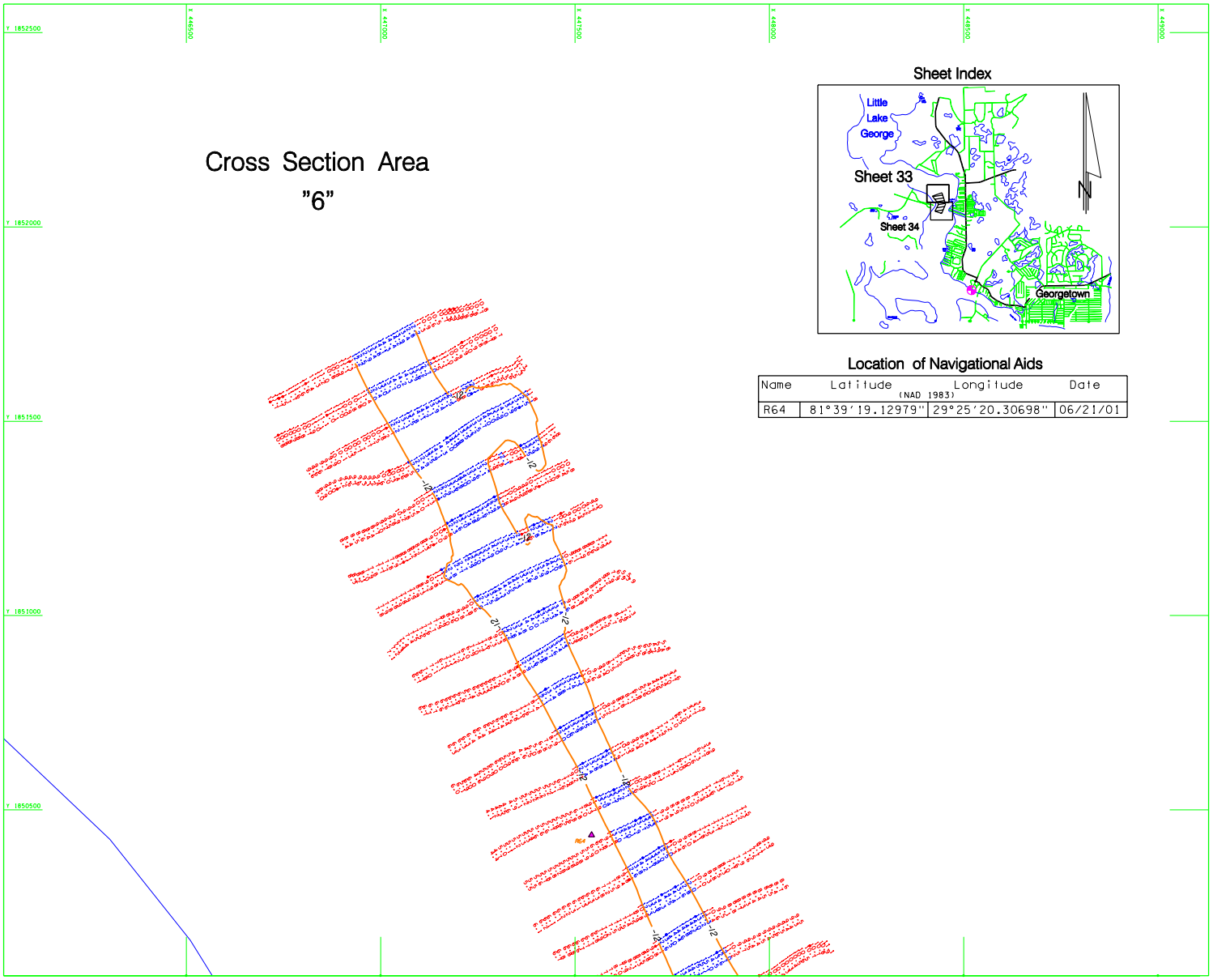
File name: C089_SH32.DGN
Reference files: C089.DGN, C089_HOR.CLV, C089_SL2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
32 / 44
SHEET 32 OF 44

...\01-089\DGN\C089_SH32.dgn 08/27/01 09:19:58 AM

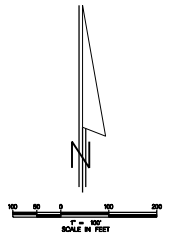
Cross Section Area "6"



Sheet Index

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
R64	81°39'19.12979"	29°25'20.30698"	06/21/01



Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
— —	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Des. No. DACW17-99-D-0005
Dated: 16 JUNE 1999
Designed by: KES
Drawn by: KES
Checked by: DWS
Dated: XXXXXXX
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'
C.O.E. FILE NO. 2-38,225

File name: C089_SH33.DGN
Reference files: C089.DGN, C089_SURF.DGN, C089_XS.CLV, C089_S2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
33 / 44
SHEET 33 OF 44

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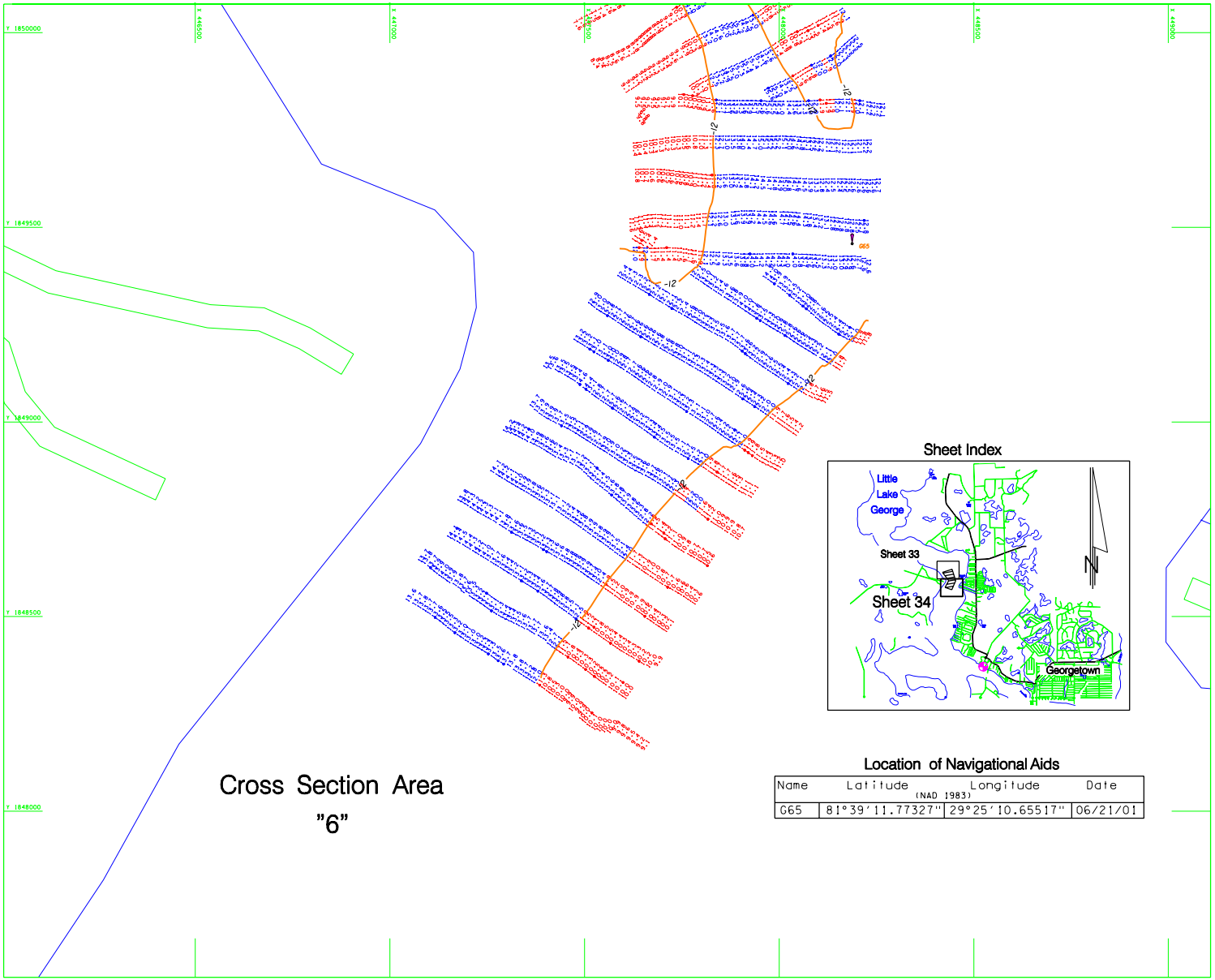
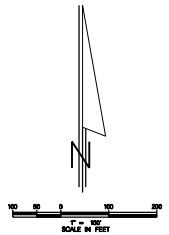


Cross Section Area
"6"

Sheet Index

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
G65	81°39'11.77327"	29°25'10.65517"	06/21/01



Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

Approved
Description
No. Survey Date

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. RADDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Des. No. DACW17-99-D-0025
Dated: 16 JAN 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot name: F - 2D7

Designed by: KEE
Drawn by:
Chkd by:
Dated: XXXXXXX

D.O.FILE NO. 2-38.225

File name: C089_SH34.DGN
Reference files: C089.DGN, C089_SURF.DGN, C089_XS.CEV, C089_S2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
34 / 44
SHEET 34 OF 44

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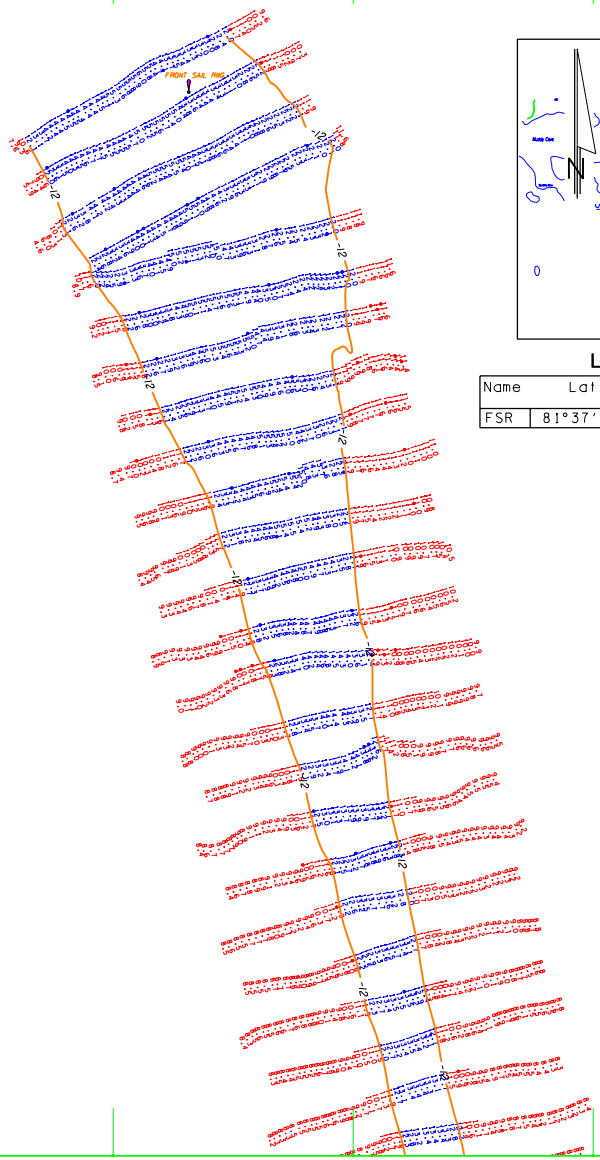
St Johns River

Cross Section Area

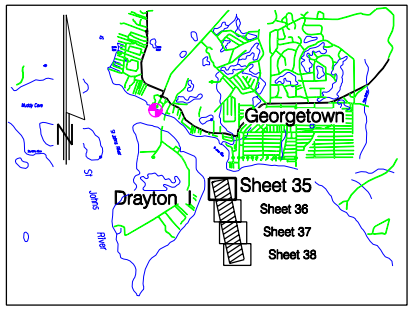
"1"

Lake

George



Sheet Index



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude (NAD 1983)	Date
FSR	81°37'23.63342"	29°22'16.21787"	06/21/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BARDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Des. No. DACW17-99-D-0005
Design: 16 JAN 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'

Designed by: KEV
Drawn by: DLS
Checked by:
Quad: XXXXXXX

D.O.F.I.L.E NO. 2-38,225

File name: C089_SH35.DGN
Reference files: C089_BKG, C089_MCS.CLV, C089_SL2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
35 / 44

SHEET 35 OF 44

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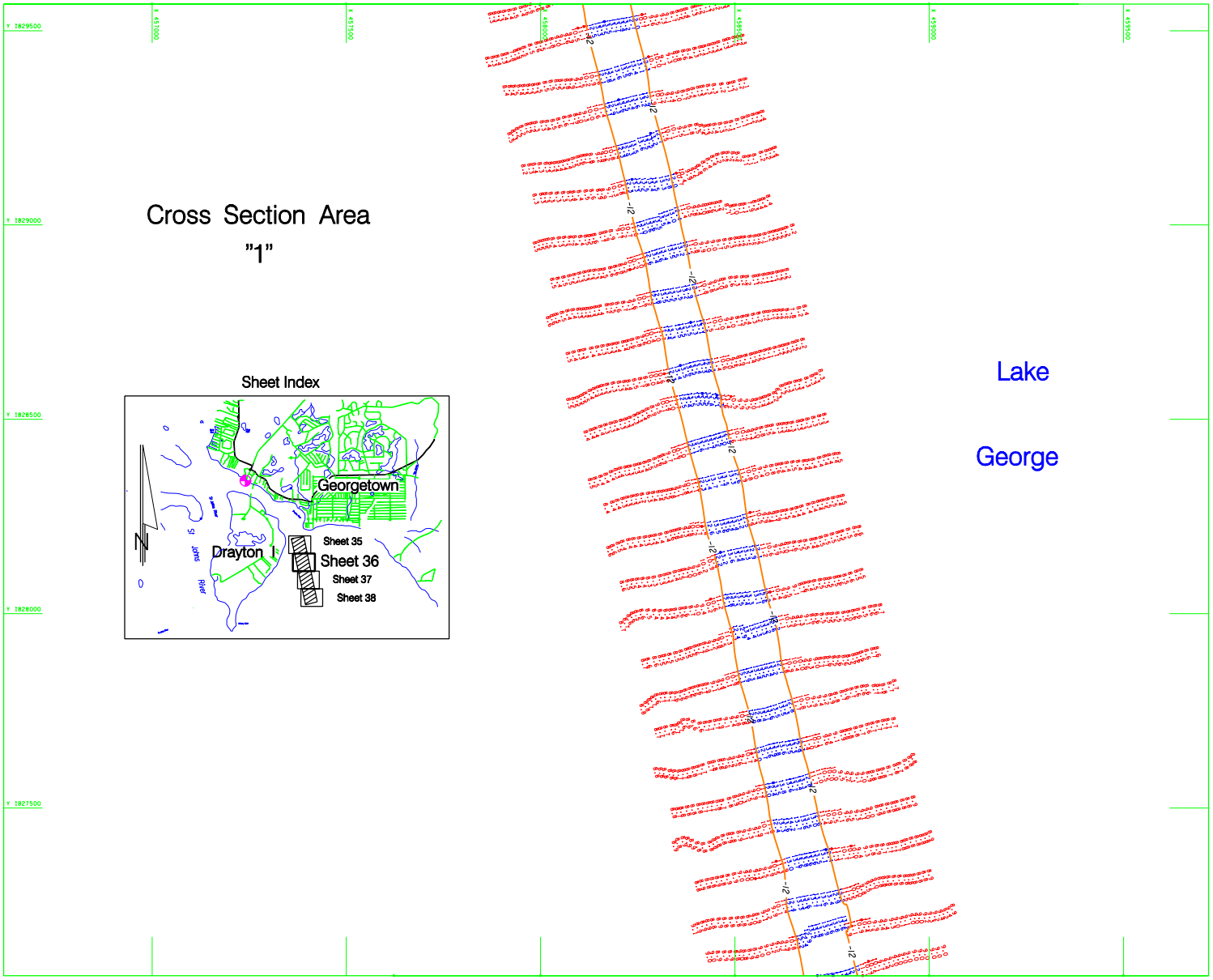


1" = 100'
SCALE IN FEET

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

)(	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Symbol	Zone	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.B. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: KKK
Dwn by: CHS
Ckd by: RJS
Inv. No. DACW17-99-0045
Dated: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'
Dated: XXXXXXX
D.O.FILE NO. 2-38,225

File name: C089_SH36.DGN
Reference files: C089_BRD, C089_QUAD5, C089_XS_ELEV, C089_S2

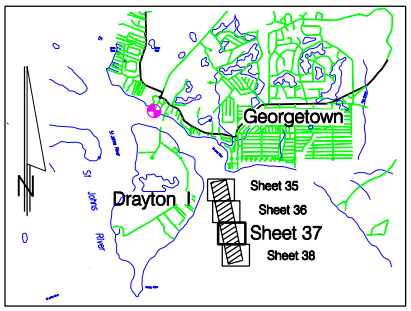
ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
36 / 44
SHEET 36 OF 44

...\01-089\DGN\C089_SH36.dgn 08/27/01 09:35:09 AM

Cross Section Area "1"

Sheet Index



Lake George

Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38.225

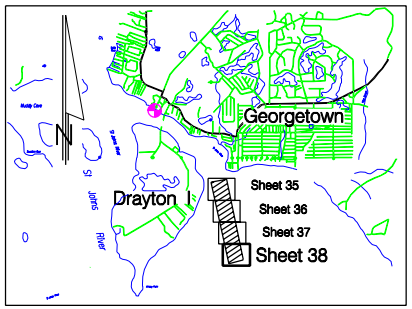
ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
37 / 44
SHEET 37 OF 44

...\01-089\DGN\C089_SH37.dgn 08/27/01 09:36:18 AM

Cross Section Area "1"

Sheet Index



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
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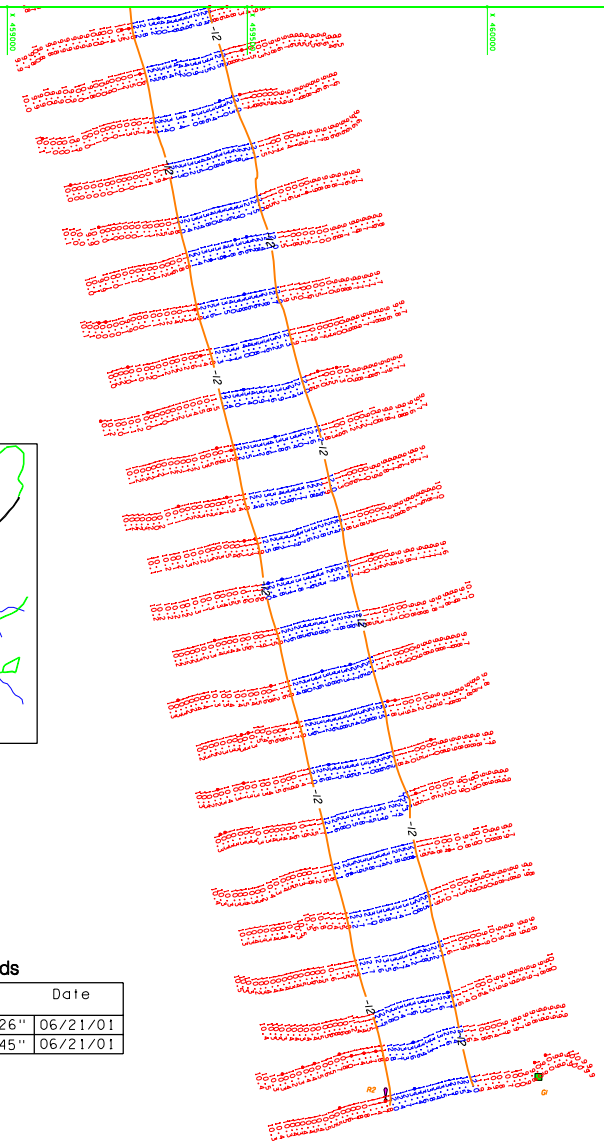
G1	81°36'55.41000"	29°20'42.76745"	06/21/01



Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Des. No. DACW17-99-D-0005
Dsgnd: 16 JAN 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'
Designed by: KEE
Drawn by: DAS
Check by: DAS
Dwgs: XXXXXXX
D.O.FILE NO. 2-38.225
File name: C089_SH38.DGN
Reference files: C089.DEP, C089.TOP, C089.XS.ELEV, C089.XS.2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
38 / 44
SHEET 38 OF 44

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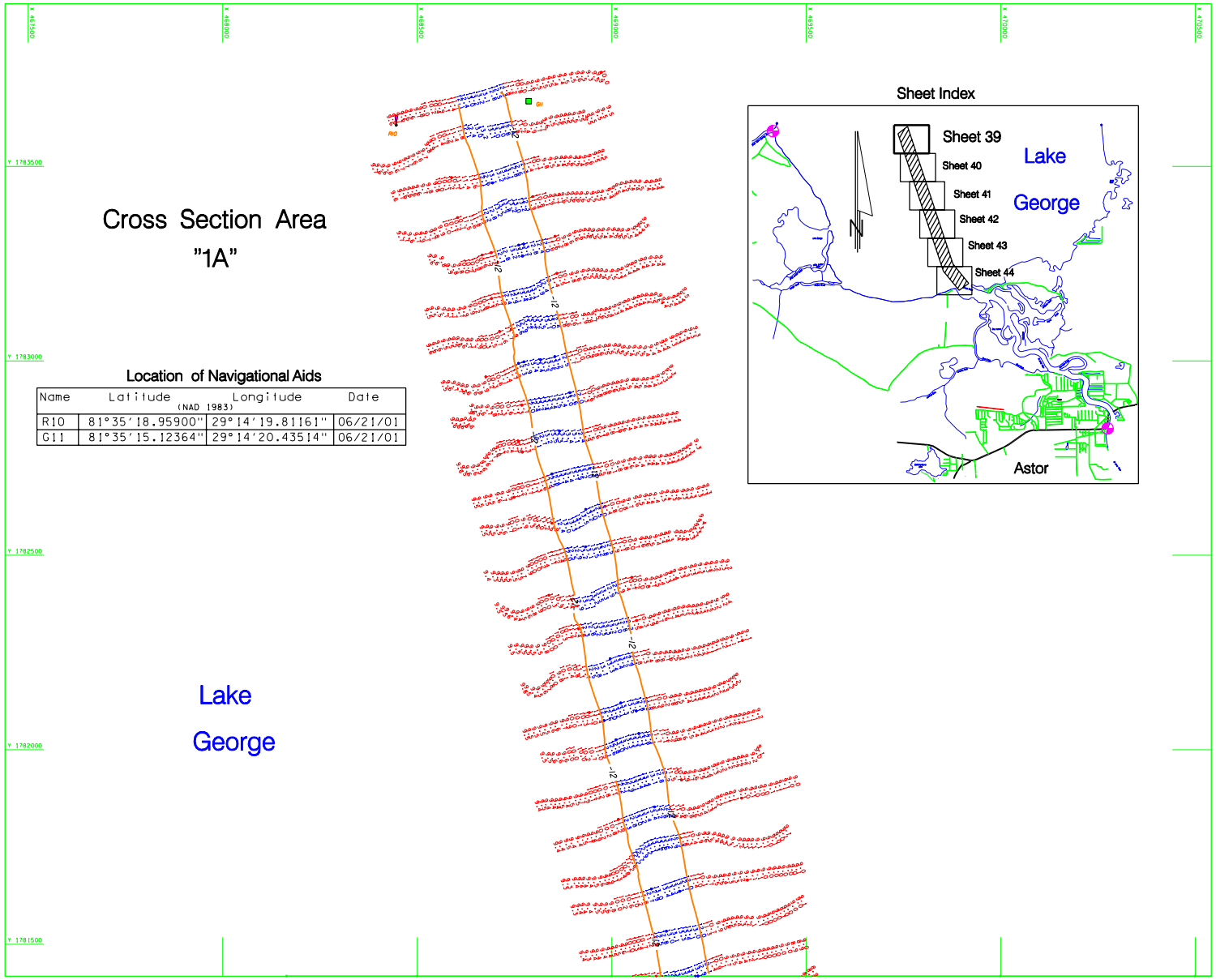

Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
R10	81°35'18.95900"	29°14'19.81161"	06/21/01
G11	81°35'15.12364"	29°14'20.43514"	06/21/01

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols

)(	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
— —	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.B. BRADLEY AND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Designed by: XXX
Dwn by: CHS
Ckd by: RJS
Date: 16 JUNE 1999
Scale: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'
Dated: XXXXXXX
D.O. FILE NO. 2-38, 225

File name: C089_SH39.DGN
Reference files: C089.BRD C089.QUADS C089.XS_ELEV C089.SL2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
39 / 44

SHEET 39 OF 44

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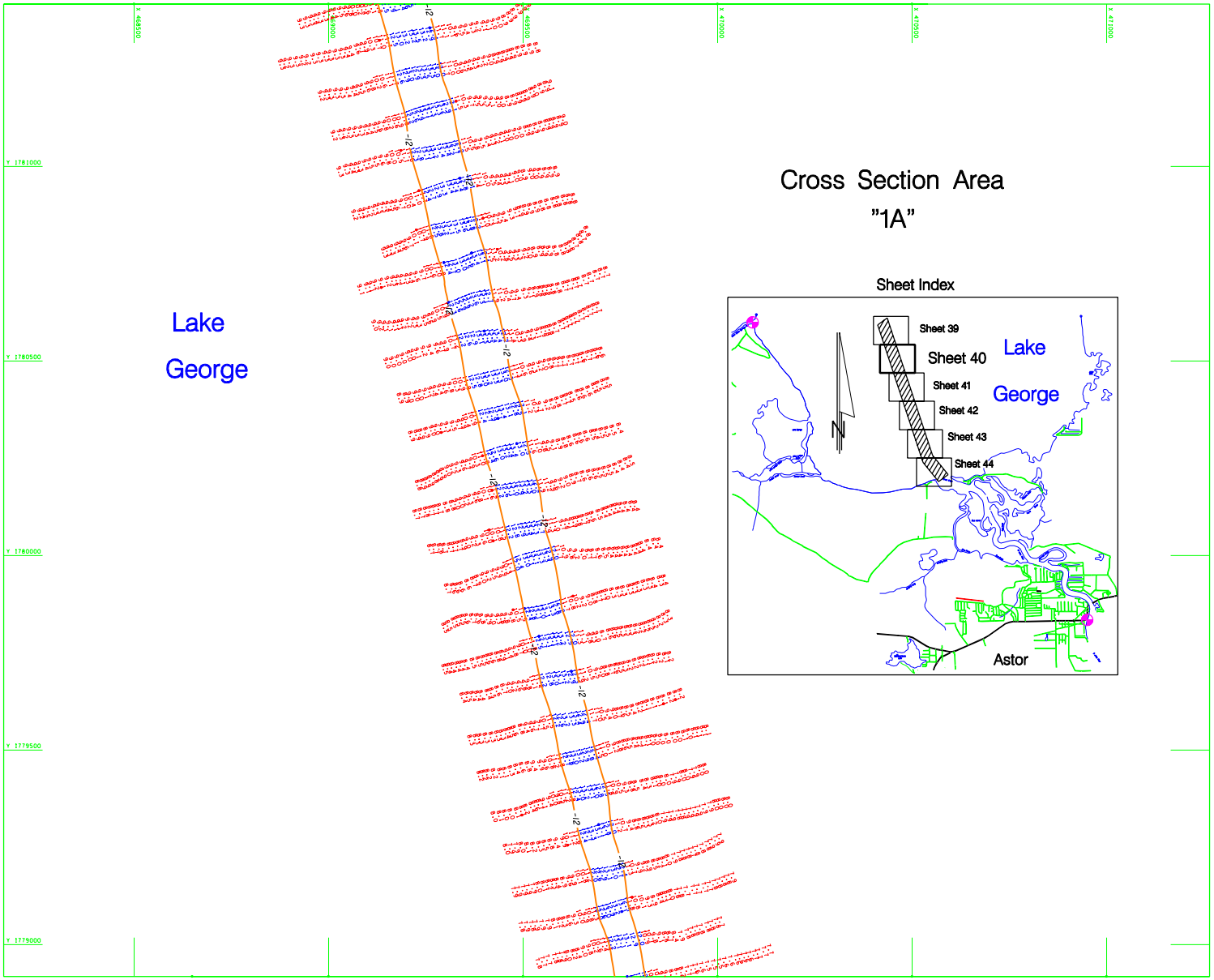
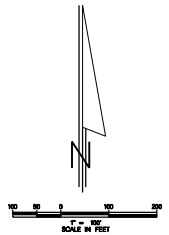


Cross Section Area
"1A"

Sheet Index



Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
G*	GREEN NAVIGATIONAL AID
RG	RED AND GREEN AID
PRIV	PRIVATE
RNG	NAVIGATION RANGE LINE
RSR	FRONT SAIL RANGE
RNG	REAR SAIL RANGE

Legend of Symbols	
][	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
△	RED AND GREEN DAYBEACON
□	GREEN AND RED DAYBEACON
▲	RED DAYBEACON
■	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

No.	Description	Approved

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

Res. Surveyor: John

Proj. No. DACW17-99-D-0005
Dated: 16 JAN. 1999
Surv: AS SHOWN
Plot date: 07/25/01
Plot scale: 1" = 200'

Designed by: KEE
Drawn by: DMS
Chkd by:
Dated: XXXXXXX

D.O.F.I.L.E NO. 2-38.225

File name: C089_SH40.DGN
Reference files: C089.DGN, C089_SH1.DGN, C089_XS.CEV, C089_S2

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
40 / 44

SHEET 40 OF 44

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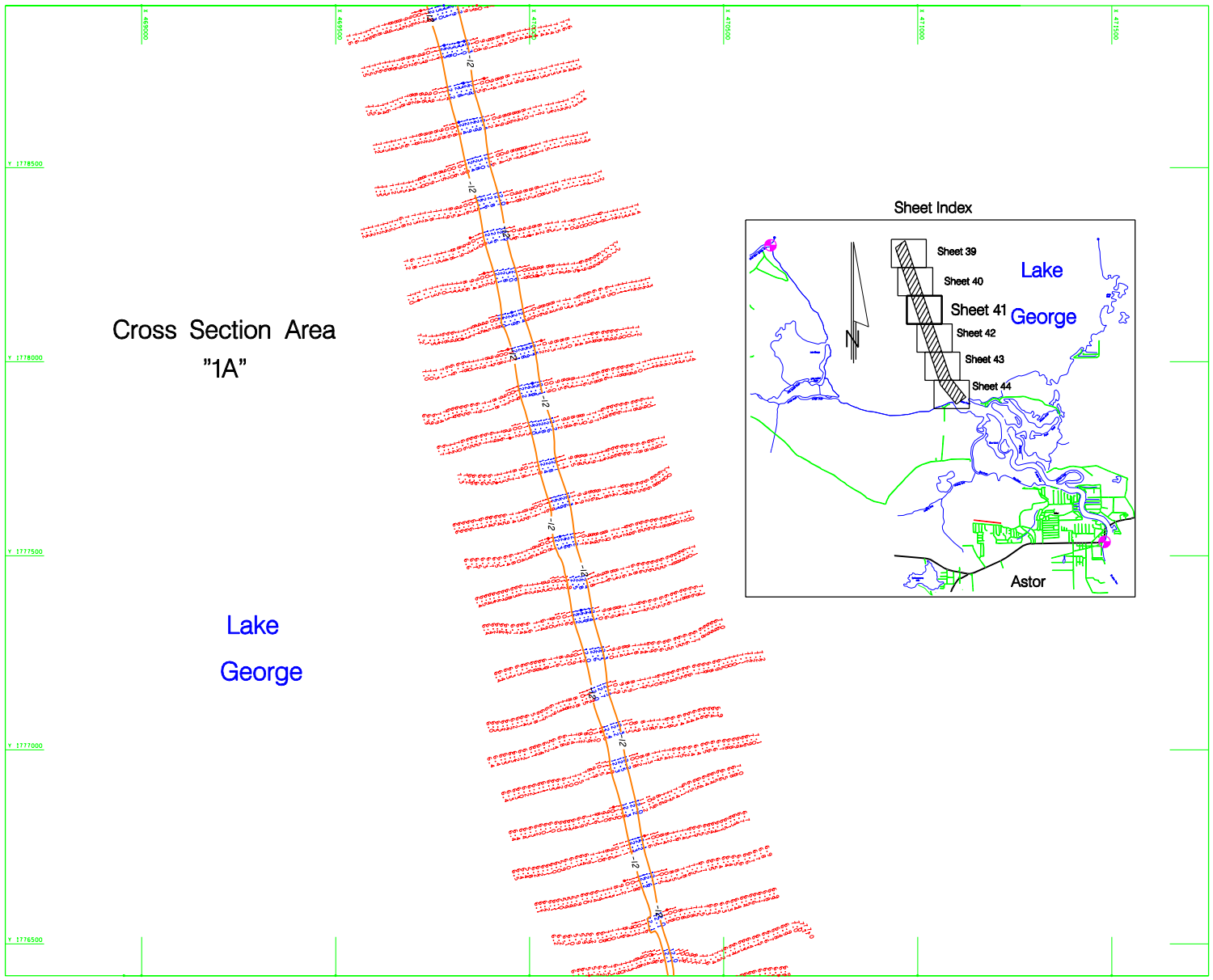

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BARDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38,225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
41 / 44
SHEET 41 OF 44

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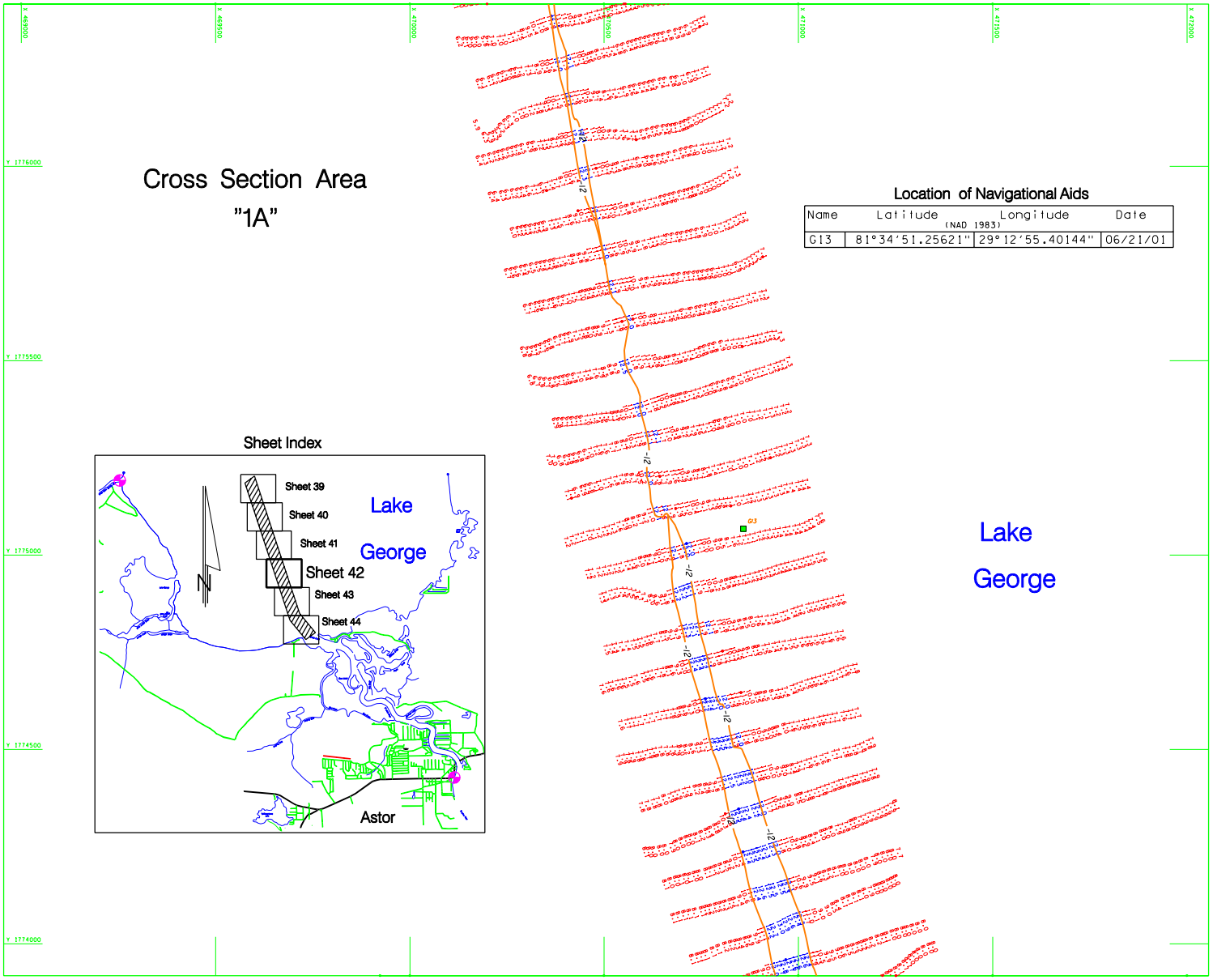
Cross Section Area
"1A"



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
G13	81°34'51.25621"	29°12'55.40144"	06/21/01

Sheet Index

Legend of Abbreviations

NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
MLW	MEAN LOW WATER
R*	RED NAVIGATIONAL AID
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Legend of Symbols

	BRIDGE FENDERS
	LIGHT
	TIDE GAUGE
	RED LIGHTED BUOY
	GREEN LIGHTED BUOY
	RED AND GREEN DAYBEACON
	GREEN AND RED DAYBEACON
	RED DAYBEACON
	GREEN DAYBEACON
	COUNTY LINE

NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

L.J. BRADLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38.225

ST. JOHNS RIVER FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
42 / 44
SHEET 42 OF 44

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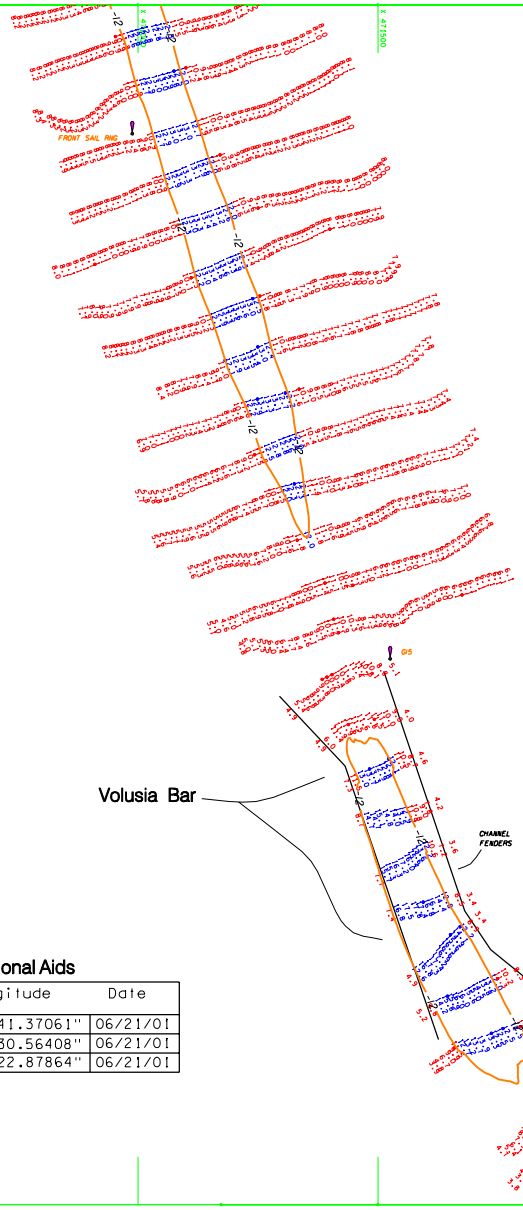
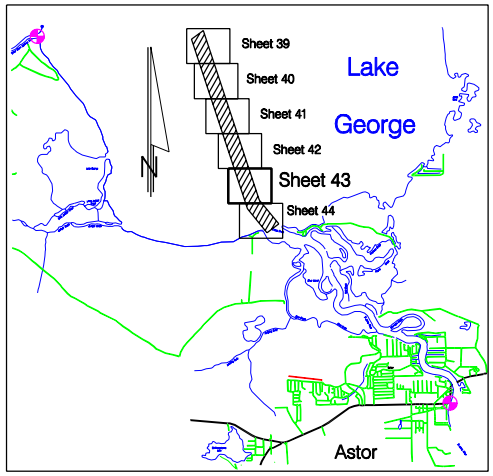
Cross Section Area "1A"



Sheet Index



Location of Navigational Aids

Name	Latitude (NAD 1983)	Longitude	Date
FSR	81°34'49.71605"	29°12'41.37061"	06/21/01
G15	81°34'43.59062"	29°12'30.56408"	06/21/01
G17	81°34'38.89355"	29°12'22.87864"	06/21/01

Legend of Abbreviations	
NGVD	NATIONAL GEODETIC VERTICAL DATUM OF 1929
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■	GREEN DAYBEACON
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NOTES:
1. REFER TO SURVEY NO. 01-089.
2. SEE SHEET 1 FOR NOTES.

US Army Corps of Engineers
Jacksonville District

SAFETY ON THIS JOB DEPENDS ON YOU

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

LJ BADDLEY LAND SURVEYORS
5773 NORMANDY BOULEVARD
JACKSONVILLE, FLORIDA 32205
LICENSED BUSINESS No. 6888

D.O.FILE NO. 2-38, 225

ST. JOHNS RIVER, FLORIDA
JACKSONVILLE TO LAKE HARNEY
PROJECT CONDITION SURVEY
12 FOOT PROJECT
PLAN

DRAWING NO.
43 / 44
SHEET 43 OF 44

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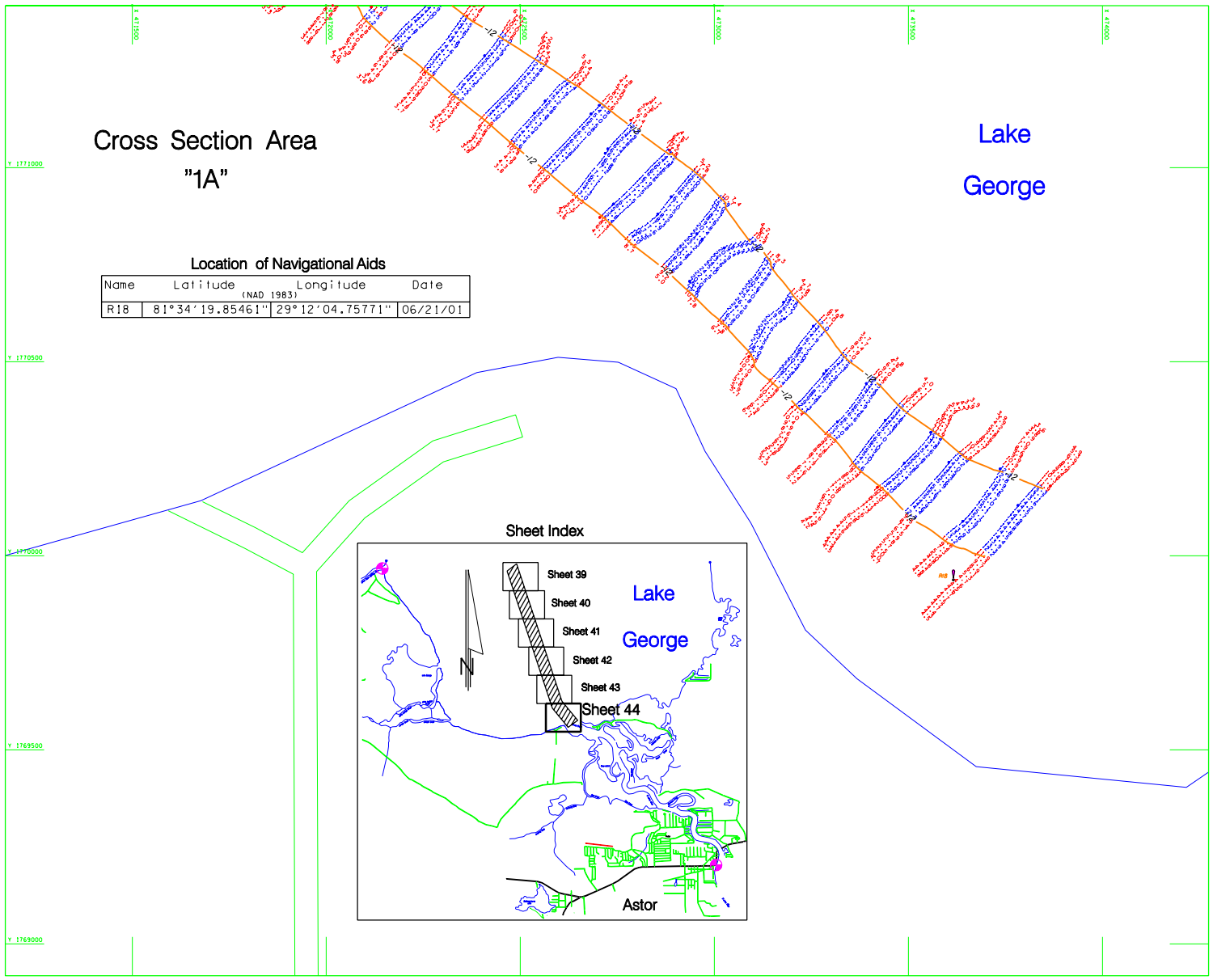

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