

5203

7, Form 529 Descriptions
Filed

5203

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Topographic } Hydrographic	Sheet No. T-5203
State FLORIDA	
LOCALITY	
SAINT JOHNS RIVER	
RICE CREEK	
Photographs taken ^{filed to} Mar 1935	
1939	
CHIEF OF PARTY	
Hubert A. Paton & Riley J. Sipe	

Applied to Chart Comp. 686 January 12, 1940 H. MacEwen

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 20

REGISTER NO. T-5203 T5203

State Florida

General locality St. Johns River

Locality Rice Creek

Scale 1:10,000 Date of survey photographs Feb. & March, 1935

Vessel Air Photographic Party No. 2-A

Chief of party Hubert A. Paton - Riley J. Sipe

Surveyed by See notes on Compilation

Inked by See Notes on Compilation

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated March 4, 1935, 19

Remarks: U. S. Army Air Corps Five Lens Camera No. 32-2 used.

Field inspection done during November 1938 and February 1939.

...

NOTES ON COMPILATION

Sheet No. 20 (Field)

Register No. T-5203

PHOTOGRAPHS:

<u>32-2</u>	<u>Lens</u>	<u>Flight No.</u>	<u>11</u>	<u>No.</u>	<u>543--572</u>	<u>Acc 940</u>
" "	"	"	" 12	"	271--293	Acc 941
" "	"	"	" 13	"	351--359	Acc 942 ✓
" "	"	"	" 17	"	705--715	Acc 946 ✓

SCALE PLOT: Hubert A. Paton

SCALE FACTOR USED: 1:00

PROJECTION BY: Washington Office

CONTROL PLOTTED BY: Frank R. Gossett

CONTROL CHECKED BY: Hubert A. Paton

SMOOTH RADIAL PLOT BY: Hubert A. Paton

TOPOGRAPHY TRANSFERRED BY: Jesse A. Giles

TOPOGRAPHY CHECKED BY: Hubert A. Paton

SHORELINE INKED BY: Jesse A. Giles

DETAIL INKED BY: Jesse A. Giles

OVERLAY SHEET BY: Jesse A. Giles

DESCRIPTIVE REPORT BY: Jesse A. Giles

REVIEWED BY: Riley J. Sipe

AREA OF DETAIL INKED: 24.73 Square Statute Miles

LENGTH OF SHORELINE (Over 200 m): 10.71 Statute Miles

LENGTH OF SHORELINE (Under 200 m): 10.68 Statute Miles

LENGTH OF SHORELINE OF SMALL LAKES: 34.17 Statute Miles

Ref. Sta. Kepler 1935 Lat. $29^{\circ}41'59.868''$ (1843.3 M) *adjusted* ✓
 Long. $81^{\circ}37'17.451''$ (469.1 M)

$x = 302,672.88$ Ft

$y = 1,951,268.63$ Ft

Air Photographic Survey T-5203.

Field Inspection and Supplemental Surveys.

Photographs taken February 27, 28 and March 1, 1935.

Field Inspection made during November 1938 and February, 1939.

Details on T-5236 are of the date of the photographs except for the following:

1. Details such as pier, piling and stakes which were located by Graphic Control surveys in June 1935.
2. Details of new construction which were located by field inspection. Notes for the location of this detail are found on Field Photos. Nos. 546A, 548A, and 552A, Acc. No. 940, 280A and 281A, Acc. No. 941, 359B, Acc. No. 942, and 713A, 713B and 708B, Acc. No. 946.

DESCRIPTIVE REPORT

MAP DRAWING No. 20

REGISTER No. T-5203

GENERAL INFORMATION:

This sheet was compiled from air photographs taken by the U. S. Army Air Corps, using a five lens camera No. 32-2. Parts of flights eleven, twelve, thirteen and seventeen were used. Flight eleven was flown February 27, 1935 and from it photographs 543 through 572 were used. Flight 12 was flown February 28, 1935, and from it photographs 271 through 293 were used although it is to be noted that the centers of none of these photographs fell within the tracing limits of this sheet. Flight number 13 was flown March 1, 1935, and from it were used photographs 351 through 359. The photographs were taken at an approximate elevation of 5000 feet and the projection was constructed on a scale 1:10,000. These photographs, as a whole, were found to be about average. Flight number 11 was consistently smaller than scale and many of the wing prints faint. Flight seventeen appeared to be nearer to scale than any of the others. From Flight No. 17 photographs 705 through 715 were used.

CONTROL:

A total of 48 control points were used on this sheet of which 36 fell within the tracing limits. 15 of these 36 were triangulation stations established by this party in 1935. One of the stations, Boatwick, was established by H. C. Warwick in 1933. 7 traverse stations established by the Florida Geodetic Survey were used. The remaining 13 control stations were located on graphic control sheets LL and KK. Seven of the stations taken from the G. C. Sheets were described stations.

RADIAL PLOT:

No difficulty was experienced.

JUNCTIONS:

On the south side this sheet is joined by T-5202 and the junction was found to be satisfactory. The junction with T-5204 on the east was also satisfactory. The sheet on the north has not been compiled. Junction with T-5236 on the North. Satisfactory.

INTERPRETATION OF THE PHOTOGRAPHS:

The area in which the upper part of Rice Creek and the mouth of Etonia Creek fall is outside the normal tracing limits. However, this area was compiled in order to furnish the hydrographic party with the necessary shoreline.

FIELD INSPECTION AND SUPPLEMENTAL SURVEY:

The field inspection was made by truck during November, 1938. Additional inspection necessary to clear up any points in doubt was made by truck in February, 1939. Measurements for all new buildings, wharfs and the like, were taken in the field and recorded on field photographs along with necessary sketches. A list of the photographs bearing such measurements and sketches follows:

Acc. 940 Flight No. 11, Photographs A-546, A-548 and A-552.

Acc. 941 Flight No. 12, Photographs A-280 and A-281.

Acc 942 Flight No. 13, Photograph B-359.

Acc 946 Flight No. 17, Photographs A-713, B-713 and B-708.

ROADS:

There are only two paved highways shown on this sheet, to-wit: U. S. Route No. 17 which begins in the southwest portion of the sheet, runs north across Rice Creek and from there on bears northeast to the northern tracing limits of the sheet. The other begins immediately south of Cow Creek where it parallels the east bank of the St. Johns River, approximately 480 meters therefrom, proceeding north in the general direction of Forrester Point and terminating at the entrance of a citrus grove known as Keplar. All other double line roads shown are dirt and sand, well ditched and open to year around traffic. Wherever trails lead to the shoreline they are shown as double-dashed roads if their condition permits the passage of trucks and similar vehicles.

SWAMPS AND MARSHES:

The marsh and swamp areas on this sheet are delineated by the standard symbols according to instructions. There are three large swamps shown. The largest is known as Rice Creek Swamp and is found on both sides of Rice Creek from which it derives its name. The next in size and importance is known locally as Saw Grass Island and is located at the head of Fish Creek. In its center is found a saw grass marsh. Most of the shoreline of Warners Cove forms the northern limit of the third large swamp area.

PONDS:

There are many ponds in this area. They are shown as cypress, cypress and grass, pine, grassy and intermittent. Only some of the larger ponds have been labeled on the overlay.

COMPARISON WITH OTHER SURVEYS:

The shoreline compares favorably with U. S. C. & G. Survey of 1884-1885, T-1564, along those sections of the river where there is solid ground but in the swamp areas there is considerable disagreement; the shoreline almost without exception receding toward higher ground. A disagreement of this nature is found in the section just north of Rice Creek of approximately 100 meters. This portion of the shoreline forms the outside of a curve in a right angle bend which the river makes and this along with the soft muddy soil may have caused this amount of erosion at this point. A similar situation is found just south of the mouth of Rice Creek; the disagreement, however, is much less. The mouth of the creek compares favorably but the remainder shown disagrees by as much as 200 meters. Fish Creek disagrees by 35 meters. Cow Creek compares favorably.

This survey compares very well with U. S. E. Sheet #1, Route 13-B, 1933, with a few exceptions which are herein referred to:

On the west bank of the river just on the edge of the northern limits of Rice Creek Swamp at triangulation station Range the map shows a creek whose mouth is 10 or 12 meters wide. Both field and stereoscopic inspection reveal that no such creek is in existence.

On the north bank of the river, approximately 330 meters east of station Junior, the above mentioned map shows an indentation or narrow cove which careful search, both in the field and under the stereoscope, fails to reveal.

A similar indentation is shown on the U. S. E. map on the west side of Fish Creek just inside the mouth. A search was made but no such indentation could be found. ^{CS163M CS162M}

Graphic Control Sheets LL and KK were made by this party in June, 1935. The only disagreements encountered were found in shoreline along swamp areas and the major portion of these may be accounted for by a difference in interpretation as to where swamp shoreline should be. There are disagreements in and around the mouth of Rice Creek which cannot be reconciled to this explanation, particularly the south bank just inside the mouth. A similar difference was noted at triangulation station Rice, 1935. (Station Rice could not be pricked on the photographs).

The dock just south of the entrance to Rice Creek should be deleted from U. S. C. & G. S. chart #684. A number of small docks westward from Whetstone Point should be changed to conform with the present survey. Along the east side both south and east of Forrester Point there are a number of small docks which should be made to conform with the present survey. The prominent point about one mile east of Forrester Point, at the east side of Warners Cove, is known as Russels Point and should be added to the chart (See Geographic Names).

Penn Post Office is no longer in existence and should be deleted.

THE STATE OF CALIFORNIA

Field Sheet 20

Register No. T-5203

	Local usage	USGS Chart 684	USGS Chart #1564-B	USGS Chart LL & KK	Coast Pilot	Light List	Geol. Survey Palatka	Quod 1926.	Fla. Dept. Ag. Sec. Map	Putnam County Commrs.	Map, 1914	U.S.E.D. Sh. #1 - Route 13-B	Soil Map	Putnam County	Rand McNally Co. 1910	Putnam Co. Precinct Map.
OLD BRIDGEPORT ROAD							X		X			X				
COW CREEK	X	X	X	X			X					X	X	X		
ETONIA CREEK	X						X	X	X						X	
ELGIN GROVE	X			X												
ESPERANZA	X			X												
FORRESTER POINT	X	X	X	X	X	X	X		X	X	X	X			X	
FISH CREEK	X	X	X	X					X	X	X				X	
FAIRVIEW	X			X			X	X	X	X	X	X	X	X		
MOCCASIN BRANCH	X		X				X		X	X	X					
PECAN	X							X							X	
PECAN GROVE	X			X												
RICE CREEK	X	X	X	X	X		X		X	X	X	X				
RICE CREEK (Town)	X						X	X	X	X	X	X	X	X	X	
RICE CREEK SWAMP	X						X					X				
RIVERIA	X						X		X		X	X	X	X		
RUSSELS POINT	X								X						X	
SAW GRASS ISLAND	X															
TEASDALE	X						X	X	X			X			X	
WARNERS COVE	X			X												
WARNER POINT	X															
WHEATSTONE POINT	X	X					X		X	X	X	X			X	

OLD BRIDGEPORT ROAD:

This road is replaced by the new road which parallels the St. Johns River between Moccasin Branch and Fairview.

COW CREEK:

About half of the sources give this as Cow Branch but locally it is known as Cow Creek.

ETONIA CREEK:

The northern branch of Rice Creek.

EAST WARNER POINT:

This name is on the G. C. Sheet covering the area. After scanning all available charts and making diligent inquiry no such name could be found. It is recommended that this name be removed from the G. C. Sheet. This point is known as Russels Point.

ELGIN GROVE:

On the east side of the river just south of Forrester Point.

ESPERANZA:

This is a dock and large packing house on Forrester Point.

FORRESTER POINT:

This point is on the east bank of the river directly across from Rice Creek. Some sources give it as Forrester's Point but Forrester Point is recommended.

FISH CREEK:

On the north bank of the river in the northeastern section of the sheet just west of Whetstone Point.

FAIRVIEW:

That section on the north bank of the river north-eastward from Whetstone Point.

MOCCASIN BRANCH:

A number of sources give this as Moccasin Creek but Branch is recommended as all local residents questioned knew it as such. Mr. A. E. Kmetz and Mr. J. L. Glisson who have resided in Palatka for more than twenty years, and Mr. A. L. Cole, who has resided near Moccasin Branch (Palatka, R. F. D.) since 1916, say that the name is Moccasin Branch and not Moccasin Creek.

PECAN:

A flag station on the Atlantic Coast Line Railroad at Pecan Grove.

RICE CREEK:

The large creek in the southwest portion of the sheet.

RICE CREEK (section):

The section just north of Rice Creek at the bend in Highway No. 17.

RICE CREEK SWAMP:

The swamp extending on both sides of Rice Creek.

RIVERIA:

A negro section on the east side of the river just north northeast of Cow Creek in the southeast section of the sheet. Mail for this section is received from Palatka and there is no longer a post office called Riveria.

RUSSELS POINT:

The point on the south bank of the river at the eastern end of Warners Cove. J. L. Glisson, L. D. Miller and A. E. Kmetz of Palatka, who have resided in this section for more than twenty years say that Russels Point is the best known and current name of the point.

SAW GRASS ISLAND:

This is the local name for the marsh at the head of Fish Creek.

TEASDALE:

A flag station on the A. C. L. Railroad near the northern edge of the sheet.

WARNERS COVE:

The cove on the south side of the river between Warner Point and Russels Point.

WARNER POINT:

The point on the south bank at the west end of Warners Cove.

WEST WARNER POINT:

This name is on the G. C. Sheet covering this area. A number of local residents were questioned concerning this name and all said that the name was Warner Point and not West Warner Point. It is recommended that the name be removed from the G. C. Sheet.

MISCELLANEOUS:

Other names used on this sheet are believed to be self-explanatory, such as, St. Johns River, Atlantic Coast Line Railroad and U. S. Highway No. 17.

Bellevue School and Rice Creek School are no longer in existence. The students in the area covered by this sheet are now carried in school busses to the larger schools in surrounding towns.

Mt. Pleasant Church, which was in the vicinity of Bellevue School, is there no longer according to the following residents all of whom have lived in Putnam County for more than twenty years: Messrs. A. C. Fralick, R. L. Glisson and L. K. Tucker, Post Office address Palatka, Florida.

SYMBOLS:

All symbols used on this sheet are in accordance with recent instructions or in common practice on this project. Cultivated fields have been left blank and labeled on the overlay wherever practical. All groves not labeled are citrus.

BRIDGES:

There are two bridges on this sheet both of which span Rice Creek. The following data is taken from "List of Bridges Over Navigable Waters. U. S. E. D. Revised to Jan 1, 1935." and has been checked with the U. S. E. D. Jacksonville office:

ATLANTIC COAST LINE RAILROAD:

Vertical Clearance 4.5 feet at M. L. W. Spans
Horizontal span 30.0 feet at M. L. W. both/

U. S. HIGHWAY NO. 17:

Vertical Clearance 10.0 ft. at M. L. W.
Horz. Span 41.0 feet in both spans. at M. L. W.

Respectfully submitted,

See opposite page

Jesse A. Giles
Jesse A. Giles, Hand.

Approved & Forwarded
Wiley J. Lyle
Chief of Party

Remarks.

Decisions

1		USGB
2		297815
3		"
4		297816
5		"
6		"
7		"
8		"
9		"
10		"
11		296816
12		"
13		"
14		"
15		" USGB
16		"
17		"
18		"
19		"
20		"
21		"
22		
23		
24		
25		
26		
27		

GEOGRAPHIC NAMES

Survey No. **T-5203**

GEOGRAPHIC NAMES		Survey No. T-5203		On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
Name on Survey		A.	B.	C.	D.	E.	F.	G.	H.	K.									
St. Johns River																			1
Whetstone Point																			2
Fairview																			3
Rish Creek																			4
Russels Point																			5
Warner Point																			6
Moscasin Branch																			7
Rice Creek (vill.)																			8
Teasdale																			9
Saw Grass Island																			10
Warner's Cove																			11
Riveria																			12
Esperanza																			13
Elgin Grove																			14
Forrester Point																			15
Cow Creek																			16
Pecan																			17
Pecan Grove																			18
Etonia Creek																			19
Rice Creek																			20
Rice Creek Swamp																			21
																			22
																			23
																			24
																			25
																			26
																			27
																			28

Names underlined in red approved

by L. Heck on 7/25/39

M 234 10

Names underlined in red approved

by L. Heck on 7/25/39

REVIEW OF AIR PHOTO COMPILATION NO.

Chief of Party:

Compiled by:

Project:

Instructions dated:

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)

Yes

- 2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n)

Yes

3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e)

None

4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28)

None

5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.

Yes

6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 68 c,h,i)

Yes

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44)

Yes

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)

None

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

Yes

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)

None

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

Yes

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

Yes

13. The geographic datum of the compilation is N. A. 1927 and the reference station is correctly noted.

Yes

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

Yes

15. The drafting is satisfactory and particular attention has been given the following:

1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.
2. The degrees and minutes of Latitude and Longitude are correctly marked.

3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.
5. Topographic symbols for similar features are of uniform weight.
6. All drawing has been retouched where partially rubbed off.
7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

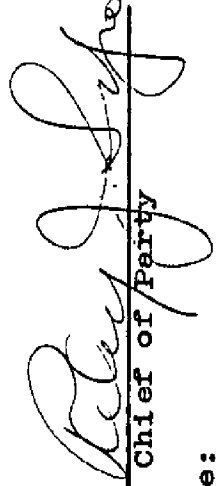
Yes

16. No additional surveying is recommended at this time. No

17. Remarks:

The major portion of this sheet was completed under Lieut. Paton and his name has been shown as Chief of Party except where a signature was necessary.

18. Examined and approved;


Chief of Party

19. Remarks after review in office:

25/MEK
438 C

KTR 80 APR 82

September 13, 1939.

Commandant,
U. S. Coast Guard,
Washington, D. C.

Sir:

The following azimuths of ranges in the St. Johns River
were determined by inverse computations between triangulation
stations:

Forrester Point Lower Range	18° 58'
" " Middle "	352° 54'
" " Upper "	331° 52'

Very truly yours,

(Signed) L. O. Colbert

Director.

cc. Division of Charts.

Section of Field Records

REVIEW OF AIR PHOTOGRAPHIC SURVEY T-5203

August 30, 1939.

Comparison with Graphic Control Surveys.

CS 162M (1:10,000) June 1935.

CS 163M (1:10,000) June 1935.

Not much shoreline detail is shown on these surveys as they were made primarily for the location of control for hydrography. Comparison with T-5203 shows good agreement. Details such as pier ruins, piling and fishnet stakes which do not show on the photographs covering this area were transferred to T-5203 by the field party.

All details on the above surveys now in existence and within the area covered by T-5203 are shown on T-5203, except temporary topographic stations, magnetic declination and ranges. Magnetic declinations have been compared with charts covering the area and agree within less than 2 degrees. Range azimuths were determined by inverse computations between triangulation stations and are as follows:

<u>Name</u>	<u>Azimuth</u>
Forrester Point Lower Range	18° 58'
Forrester Point Middle Range	352° 54'
Forrester Point Upper Range	331° 52'

These azimuths have been reported to the Coast Pilot Section.

For comparison made by the field party, see page 3 of the descriptive report for T-5203.

Comparison with Contemporary Hydrographic Surveys.

H-6299 (1:10,000) 1935.

H-6327 (1:10,000) 1935.

The above surveys had been reviewed by the hydrographic unit ^{verifying} prior to comparison with T-5203. Shoreline from T-5203 has not been transferred to H-6299, but was transferred to H-6327 by the field party. This has been reported to the hydrographic verifying unit. Numerous piles and fish stakes which appear on the hydrographic surveys did not show on the photographs and, therefore, were not transferred to T-5203.

Air Photo Survey T-5203

- 2 -

A minor difference in bridge clearance values exists between T-5203 and H-6327. Values are given on page 7 of this descriptive report and the discrepancy has been referred to the Hydrographic Verifying unit.

Comparison with Previous Topographic Surveys.

In general T-5203 agrees well with the previous topographic surveys listed below. There have been numerous cultural changes and some changes in shoreline due to erosion. T-5203 is considered complete and adequate to supersede the sections of these surveys which it covers.

For comparison made by the field party see page 2 of the descriptive report for T-5203.

T-1564 (1:10,000) 1884-85.

T-2027 (1:80,000) 1875.

Comparison with Chart 684 (December 3, 1937).

T-5203 shows numerous cultural and shoreline changes. Fixed aids to navigation were located by triangulation and are shown on T-5203.

For comparison by the field party see page 3 of the descriptive report for T-5203.

Landmarks in this area are listed in Chart Letter 581 (1935).

Recoverable Topographic Stations.

Seven descriptions, Form 524, for recoverable topographic stations on T-5203 are filed under T-5203.

General.

The descriptive report and the compilation of details on T-5203 are complete and the drafting is satisfactory.

Reviewed in office by - H. D. Reed, Jr.

Inspected by - B. G. Jones. *B. G. Jones*

Examined and approved:

H. D. Reed
T. B. Reed,
Chief, Section of Field Records.

K. T. Adams
K. T. Adams
Chief, Division of Charts.

Fred. L. Peacock
Fred. L. Peacock
Chief, Section of Field Work.

G. H. Hilde
G. H. Hilde
Chief, Division of H. & T.

Air Photographic Survey T-5203

Bridge Data.

With reference to the statement on the preceding page, the following are values given by the several sources of information:

<u>Description</u>	<u>Horiz. Clear.</u>	<u>Vert. Clear.</u>	<u>Source</u>
Rice Creek R.R. Bridge	30.0'	4.5' M.L.W.	T-5203
"	33.0'	2.5' M.H.W.	H-6327
"	L. 29.0') R. 30.0')	2.0' at H.W.	U.S.E. Bridge Book.
Rice Creek Highway Bridge	41.0'	10.0' M.L.W.	T-5203
"	42.0'	10.0' M.H.W.	H-6327
"	40.0'	1.4' at H.W.	U.S.E. Bridge Book.

In view of the statement made on the preceding page that the values have been checked with the Engineer Office at Jacksonville, those values (listed above as from T-5203) have been corrected to M.H.W. by subtracting 1 foot and are shown on T-5203.

PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by S. KASS

Positions checked by S. K. (ON RULING MACHINE)

Grid inked on machine by S. K.

Intersections inked by F. H. McBeth.

Points used for plotting grid:

MINUTE INTERS.

ϕ 29-41
 λ 81-41

ϕ 29-44
 λ 81-41

ϕ 29-41
 λ 81-35

$\frac{x}{y}$

ϕ 29-43
 λ 81-38

$\frac{x}{y}$

ϕ 29-44
 λ 81-35

$\frac{x}{y}$

Triangulation stations used for checking grid: Checked by F. H. McBeth.

1. Δ P33 (Fla. Geod. Surv.) 5.
2. Δ Bostwick 1933 6.
3. Δ Kepler 1935 (Ref. Sta.)
 $x = 302,672.88$
4. $y = 1,951,268.63$ 8.

5203

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

(CALCULATING MACHINE COMPUTATION)

State Fla. Zone East Station 29 41
81 41

λ (Central meridian) _____

ϕ _____

λ _____

$\Delta\phi$ (Excess of ϕ over
even 10' expressed as
minutes and decimal)

$\Delta\lambda$ (Central meridian— λ)

$\Delta\lambda$ (in sec.)

-2460"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>605.16</u>
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	<u>-</u>	Interpolated V (fraction of 10')	<u>+</u>
Cor. for second dif.	<u>+</u> <u>34</u>	Cor. for second dif.	<u>+</u> <u>2</u>
H	<u>88.210542</u>	V	<u>1.059080</u>
a	<u>-</u> <u>.738</u>	Tabular difference of y for 1" of ϕ	
b	<u>+</u> <u>10.039</u>	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
H ($\Delta\lambda''$)	<u>216,997.93</u>	Tabular y	<u>1,944,691.06</u>
ab	<u>-</u> <u>7.41</u>	$V\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>640.91</u>
x'	<u>-216,990.52</u>		
	<u>500,000.00</u>	c	<u>-</u> <u>.10</u>
x	<u>283,009.48</u>	y	<u>1,945,331.87</u>
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F'(\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	
		$\Delta\alpha$	

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V\left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \frac{\phi + \phi'}{2} + F'(\Delta\lambda'')$$

T5203

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION
(CALCULATING MACHINE COMPUTATION)

State Fla. Zone East Station 29 41
81 35

λ (Central meridian) _____

ϕ _____ λ _____

$\Delta\phi$ (Excess of ϕ over even 10' expressed as minutes and decimal) _____ $\Delta\lambda$ (Central meridian - λ) _____
 $\Delta\lambda$ (in sec.) - 2100"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>441</u>
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+ <u>34</u>	Cor. for second dif.	+ <u>2</u>
H	<u>88.210542</u>	V	<u>1.059080</u>
a	- <u>.738</u>	Tabular difference of y for 1" of ϕ	
b	+ <u>9.398</u>	y (for minutes of ϕ)	
H ($\Delta\lambda''$)	<u>185,242.14</u>	y (for seconds of ϕ)	
ab	- <u>6.94</u>	Tabular y	<u>1,944,691.06</u>
x'	<u>-185,235.20</u>	$V\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>467.05</u>
	<u>500,000.00</u>	c	- <u>.08</u>
x	<u>314,764.80</u>	y	<u>1,945,158.03</u>
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F(\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	
		$\Delta\alpha$	

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V\left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \frac{\phi + \phi'}{2} + F(\Delta\lambda'')$$

75203

③

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form No. 744 a
June 1933

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

(CALCULATING MACHINE COMPUTATION)

State Fla. Zone East Station 29 43
81 38

λ (Central meridian) _____

ϕ _____

λ _____

$\Delta\phi$ (Excess of ϕ over
even 10' expressed as
minutes and decimal) _____

$\Delta\lambda$ (Central meridian— λ) _____

$\Delta\lambda$ (in sec.) - 2280

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>519.84</u>
Tabular H (even 10') _____		Tabular V (even 10') _____	
Interpolated H (fraction of 10') <u>-</u>		Interpolated V (fraction of 10') <u>+</u>	
Cor. for second dif. <u>+</u> <u>78</u>		Cor. for second dif. <u>+</u> <u>4</u>	
H <u>88.181416</u>		V <u>1.059811</u>	
a <u>-</u> <u>.736</u>		Tabular difference } of y for 1" of ϕ }	
b <u>+</u> <u>9.772</u>		y (for minutes of ϕ) _____	
		y (for seconds of ϕ) _____	
H ($\Delta\lambda''$) <u>201,053.63</u>		Tabular y <u>1,956,812.30</u>	
ab <u>-</u> <u>7.19</u>		$V \left(\frac{\Delta\lambda''}{100}\right)^2$ <u>550.93</u>	
x' <u>-</u> <u>201,046.44</u>			
<u>500,000.00</u>		c <u>-</u> <u>.10</u>	
x <u>298,953.56</u>		y <u>1,957,363.13</u>	
$\frac{(\text{Tabular } y) + y}{2}$ _____		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$ _____	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table) _____		$F' (\Delta\lambda'')$ _____	
$\sin \frac{\phi + \phi'}{2}$ _____		$\Delta\alpha''$ _____	
		$\Delta\alpha$ _____	

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \frac{\phi + \phi'}{2} + F' (\Delta\lambda'')$$

75203

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

(CALCULATING MACHINE COMPUTATION)

State Fla. Zone East Station 29 44
81 35

λ (Central meridian) _____

ϕ _____

λ _____

$\Delta\phi$ (Excess of ϕ over
even 10' expressed as
minutes and decimal) _____

$\Delta\lambda$ (Central meridian— λ) _____

$\Delta\lambda$ (in sec.) -2100"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>441</u>
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+ <u>90</u>	Cor. for second dif.	+ <u>4</u>
H	<u>88.166843</u>	V	<u>1.060175</u>
a	- <u>.735</u>	Tabular difference } of y for 1" of ϕ }	
b	+ <u>9.398</u>	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
H ($\Delta\lambda''$)	<u>185,150.37</u>	Tabular y	<u>1,962,872.95</u>
ab	- <u>6.91</u>	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	<u>467.54</u>
x'	<u>-185,143.46</u>		
	<u>500,000.00</u>	c	- <u>.08</u>
x	<u>314,856.54</u>	y	<u>1,963,340.41</u>
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F'(\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	
		$\Delta\alpha$	

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \frac{\phi + \phi'}{2} + F'(\Delta\lambda'')$$

75203

PLANE COORDINATES ON TRANSVERSE MERCATOR PROJECTION

(CALCULATING MACHINE COMPUTATION)

State Fla Zone East Station 29 44
81 41

λ (Central meridian) _____

ϕ _____

λ _____

$\Delta\phi$ (Excess of ϕ over
even 10' expressed as
minutes and decimal) _____

$\Delta\lambda$ (Central meridian - λ) _____

$\Delta\lambda$ (in sec.) - 2460"

		$\left(\frac{\Delta\lambda''}{100}\right)^2$	<u>605.16</u>
Tabular H (even 10')		Tabular V (even 10')	
Interpolated H (fraction of 10')	-	Interpolated V (fraction of 10')	+
Cor. for second dif.	+ <u>90</u>	Cor. for second dif.	+ <u>4</u>
H	<u>88.166843</u>	V	<u>1.060175</u>
a	- <u>.735</u>	Tabular difference } of y for 1" of ϕ }	
b	+ <u>10.039</u>	y (for minutes of ϕ)	
		y (for seconds of ϕ)	
H ($\Delta\lambda''$)	<u>216,890.43</u>	Tabular y	<u>1,962,872.95</u>
ab	- <u>7.38</u>	$V \left(\frac{\Delta\lambda''}{100}\right)^2$	<u>641.58</u>
x'	<u>-216,883.05</u>		
	<u>500,000.00</u>	c	- <u>.10</u>
x	<u>283,116.95</u>	y	<u>1,963,514.43</u>
$\frac{(\text{Tabular } y) + y}{2}$		$\Delta\lambda'' \sin \frac{\phi + \phi'}{2}$	
$\frac{\phi + \phi'}{2}$ (Interpolated from projection table)		$F'(\Delta\lambda'')$	
$\sin \frac{\phi + \phi'}{2}$		$\Delta\alpha''$	
		$\Delta\alpha$	

$$x' = H\Delta\lambda + ab$$

$$x = x' + 500,000$$

$$y = \text{Tabular } y + V \left(\frac{\Delta\lambda''}{100}\right)^2 + c$$

$$\Delta\alpha'' = \Delta\lambda'' \sin \frac{\phi + \phi'}{2} + F'(\Delta\lambda'')$$