

3854

C. & G. SURVEY  
U.S.A.  
DEC 16 1921  
No. No.

Form 504  
 DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY

State: *S. Carolina*

11-5618

DESCRIPTIVE REPORT.

*Topo* Sheet No. *3854*

LOCALITY:

*Charleston*

*Charleston Harbor*

19*21*

CHIEF OF PARTY:

*F. A. Borden*

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DESCRIPTIVE REPORT

TO ACCOMPANY

TOPOGRAPHIC SHEET

REVISION  
OF  
CHARLESTON HARBOR

OCT. 1921

LAUNCHES MIKAWA AND ELSIE

F.S. BORDEN, CHIEF OF PARTY.

This report covers the topographic work done in the revision of Charleston Harbor. It is largely a description of the changes found since the last survey and includes recommendations which it is believed will assist in bringing the chart up to date.

PROMINENT OBJECTS. Since the last survey several prominent tanks, stacks and towers have been constructed which should be shown on the chart. They are as follows:

- (1) A new stack at the Navy Yard on Cooper River. This stack is almost twice as tall as the old stack which is shown on the present chart. The new stack is approximately 60 meters south of the old one and is shown on the topographic sheet as signal NAV.
- (2) A new steel radio tower somewhat taller than either of the two radios shown on the chart has been erected at the Navy Yard. This is shown on the chart as signal TOWER.
- (3) A tall iron stack and a tall iron tank on the east side of the Ashley River abreast Duck Island stand up prominently and are visible not only on the Ashley but also on the Cooper River. These are shown on the topographic sheet as signals MUR and MIKE.
- (4) A new and taller stack has been built at the Charleston Light, Heat and Power Co. Plant. Both stacks stand out prominently. The new stack is shown on the sheet as signal POW.

SHORELINE, WHARVES, ETC. Changes in the shoreline and wharf delimitation are shown on the topographic sheet. Some of the more important changes are given in detail as follows:

- (1) The wharf line shown on the present edition of chart 470 in the vicinity of the Charleston Port Terminal Co on the Cooper River was taken from a projected survey of the company. This project was never completed and considerable of the wharf shown on the chart does not exist. A blueprint of the company's property as it now exists was obtained and is attached to the topographic sheet.
- (2) A new wharf has been built at the Navy Yard while a second one is being extended at the present time. These are shown on the topographic sheet.
- (3) The marshy point opposite the mouth of Clouter Creek has been covered over with sand, removed from the river while dredging. This filling in process has closed all of the small creeks and sloughs shown on the present chart. Correction is shown on the topographic sheet.
- (4) Considerable change has taken place on the marsh point west of the north end of Drum Island. The Southern Railroad Pier has been extended and The Standard Oil Co. have built a new modern wharf for furnishing oil to vessels. From this wharf two small wharves lead back across the marsh. These small wharves carry pipe lines to the tanks of the company which are located on the hard ground back of the marsh. The shoreline in this locality has been changed considerably.
- (5) Drum Island has undergone some changes. The north end is now hard ground due to the fact that sand has been dumped here from the dredges. The point at the south end has been cut back considerably. It is recommended that the marsh area on Drum Island be shown. On the present chart it appears as hard ground.

(6)

(6) A new wharf has been built on the east side of Cooper River just off the entrance to Clouter Creek.

(7) Beacon Number Five in Town Creek has been shifted about three hundred meters from its charted position.

(8) The shoreline south of Hobcaw Point, east side of Cooper River has changed considerably. The rear range beacon just south Hobcaw Point is actually on a point of marsh instead of back in the marsh.

(9) St. Philips Church is no longer used as a rear range light for entering Charleston Harbor. A new front range light and beacon has been established three fourths mile southeast of Fort Sumter. The light at Fort Sumter is now used as the rear range.

(10) Considerable change has taken place in the shoreline from Ft. Johnson to the westward.

(11) Wappoo Creek and the inside passage from Ashley River to the Stono River was found to have changed considerably. A new survey of the entire cut was made. Part of this creek is shown on an insert. The traverse was checked at the west end on Triangulation Station "Elliott Cut".

(12) The wharf directly opposite the mouth of Wappoo Creek has been extended. The outer end of the wharf just north of this has been demolished.

(13) A new wharf and marine railway has been built about one fourth mile south of the highway bridge across the Ashley River.

(14) The north entrance point to Wappoo Creek has built out considerably. In fact there now stands an old brick factory in a position which is shown on the present chart as water area.

(15) Thirteen Navy Mooring Buoys in the Ashley River and four north of Shute's Folly Island, which are not shown on the chart, were located and are shown on the topographic sheet. These buoys are more or less permanent and it is recommended that they be shown on the next edition of the chart.

(16) The shoreline north of the Seaboard Air Line Railroad Bridge was rerun as several minor changes were found here. Some of the wharves are broken down, while others have been built up.

METHODS EMPLOYED. Only those portion of the shoreline were surveyed where changes were found to exist. The remainder of the shoreline or a greater part of it is shown on the sheet in broken lines. The control for the work was obtained from the many prominent objects which have been located by triangulation in this locality. The only triangulation done was that necessary to locate the new prominent objects, which are listed in this report.

In order to convert the many U.S. Engineer triangulation stations to North American Datum a conversion table was made, a copy of which is attached to this report.

Respectfully Submitted,

*F. S. Borden*

F. S. Borden.

Washington, D.C.  
November 27, 1921.

# TABLE FOR CONVERTING COORDINATES OF U.S. ENGINEER TRIANGULATION STATIONS IN CHARLESTON HARBOR TO U.S. COAST SURVEY DATUM

Engineers zeros: Flynn's Church  $\phi = 32^{\circ} 47' 19.44''$   
 $\lambda = 79^{\circ} 55' 55.50''$  Ft Sumter  $\phi = 32^{\circ} 45' 07.60''$  (Charleston & Savannah Datum)  
 $\lambda = 79^{\circ} 52' 26.00''$

Latitude	Meters per minute of Lat	Feet per min of Latitude	Minutes per foot of Lat	Meters per min of Long	Feet per min of Long	Minutes per foot of Long
32 44 00	1848.275	6063.88	.000164911	562.280	1848.275	.000195135
15	276	88		2.207	5.214	
30	278	89		2.133	5.038	118
45	279	89		2.060	4.862	128
32 45 00	1848.280	6063.90	.000164910	562.386	1848.280	.000195135
15	281	90		1.912	4.575	145
30	283	90		1.839	4.399	155
45	284	91		1.766	3.822	184
32 46 00	1848.285	6063.91	.000164910	562.492	1848.285	.000195134
15	286	92		1.619	3.410	183
30	288	92		1.545	3.169	192
45	289	93		1.471	2.928	201
32 47 00	1848.290	6063.93	.000164909	562.598	1848.290	.000195210
15	291	94		1.325	2.445	220
30	292	94		1.251	2.204	229
45	294	95		1.178	1.963	238
32 48 00	1848.295	6063.95	.000164909	562.704	1848.295	.000195347
15	296	95		1.030	1.481	257
30	297	96		1.000	1.240	266
45	299	96		0.884	0.998	275
32 49 00	1848.300	6063.96	.000164908	562.810	1848.300	.000195484
15	301	97		0.736	0.817	293
30	302	97		0.662	0.576	302
45	304	98		0.589	0.334	312
32 50 00	1848.305	6063.98	.000164908	562.916	1848.305	.000195321
15	306	99		0.443	0.552	330
30	307	99		0.369	0.311	339
45	309	100		0.296	0.070	348
32 51 00	1848.310	6064.00	.000164907	563.022	1848.310	.000195358
15	311	100		0.149	0.367	367
30	312	100		0.075	0.126	376
45	314	101		0.002	0.005	385
32 52 00	1848.315	6064.01	.000164907	563.128	1848.315	.000195394
15	313	101		0.000	0.122	394
30	317	102		0.000	0.381	403
45	319	103		0.000	0.640	412
32 53 00	1848.320	6064.03	.000164906	563.234	1848.320	.000195431
15	321	104		0.000	0.658	440
30	322	104		0.000	0.416	450
45	324	105		0.000	0.175	459
32 54 00	1848.325	6064.05	.000164906	563.340	1848.325	.000195467
LAUNCH MIKAWA October 29, 1921 F. S. Borden, Chief of Party			Difference 5 per min. in 5th Decimal place	Convergence 0049 <sup>m</sup> per second	Convergence 016 <sup>ft</sup> per sec	Difference 61 per station 9 <sup>m</sup> per page

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
WASHINGTON

SECTION OF FIELD RECORDS.

REPORT ON TOPOGRAPHIC SHEET No. 3854.

Surveyed in 1921.

Chief of Party: F. S. Borden.

Surveyed by F. S. Borden, R. D. Horne, M. Leff, D. E. Whelan and  
G. H. Everett.

Inked by R. D. Horne and M. Leff.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of the survey fulfill the requirements of the General Instructions.
3. The plan and extent of the survey satisfy the specific instructions.
4. The field drafting was completed to the extent prescribed in General Instructions.
5. The junctions with adjacent surveys are satisfactory.
6. No further surveying is required within the limits of the sheet.
7. The descriptive report contains much information of cartographic value.
8. The character and scope of the surveying and field drafting are excellent.
9. Reviewed by E. P. Ellis, February, 1922.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

REVISION OF CHARLESTON HARBOR, NOT A COMPLETE SURVEY

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. **3854** FIELD LETTER "E"

South Carolina.

State . . . . .

General locality . . **Charleston Harbor** . . . . .

Locality . . . . . **Charleston Harbor.** . . . . .

Chief of party . . . . **F. S. Borden.** . . . .

Surveyed by **F. S. Borden, R. D. Horne, M. Leff, D. E. Whelan, G. H. Everett.**

Date of survey . **October-November 1921.** . . . . .

Scale . . . . **1 : 20000** . . . . .

Heights in feet above . . . . .

Contour interval . . . . . feet.

Inked by **R. D. Horne** . . . . . Lettered by **R. D. Horne**  
**M. Leff** . . . . . **M. Leff** . . . . .

Records accompanying sheet (check those forwarded): Photographs,

Descriptive report, Horizontal angle books, Field computations,

Data from other sources affecting sheet . . . . .  
**Blue Print of property of Charleston Terminal Co.**

Remarks: