

10478

Original

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Form 504

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey Planimetric

Field No. Ph-163 Office No. T-10478

### LOCALITY

State Massachusetts

General locality Narragansett Bay

Locality Somerset

1956

### CHIEF OF PARTY

Ira R. Rubottom, Chief of Party  
W. E. Randall, Baltimore District Officer

### LIBRARY & ARCHIVES

DATE February 26, 1968

USCOMM-DC 5087

DESCRIPTIVE REPORT - DATA RECORD

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T - 10478

Ph-163

Project No. (II): 25170 Quadrangle Name (IV):

Field Office (II): East Providence, R. I. Chief of Party: Ira R. Rubottom

Photogrammetric Office (III): Baltimore, Maryland Officer-in-Charge: William E. Randall

Instructions dated (II) (III):  
(II) 9 April 1956  
13 March 1957 Copy filed in Division of  
Photogrammetry (IV)

Method of Compilation (III): Kelsh Plotter

Manuscript Scale (II): 1:10,000 Stereoscopic Plotting Instrument Scale (III): 1:6,000  
(Pantograph ratio 3/5)

Scale Factor (III): 1.000

Date received in Washington Office (IV): Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV):

Publication Scale (IV): Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III): MHW

Mean sea level except as follows:  
Elevations shown as (25) refer to mean high water  
Elevations shown as (5) refer to sounding datum  
i.e., mean low water or mean lower low water

Reference Station (III): DIGHTON CORNER 1, 1890

Lat.: 41° 47' 21.36" (659.0 m) Long.: 71° 10' 17.62" (406.9 m) Adjusted  
Unadjusted

Plane Coordinates (IV): State: Zone:

Y= X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

DESCRIPTIVE REPORT - DATA RECORD

71° 11.25'

**PLANIMETRIC**

41° 48.75'

41° 45.0'

71° 07.5'

**Areas contoured by various personnel**

(Show name within area)

(iii) (iii)

DESCRIPTIVE REPORT - DATA RECORD

- 4 -

Field Inspection by (II): **Mathew A. Stewart**  
**Leo F. Beugnet**

Date: May - October 1956

Planetable contouring by (II):

Date:

Completion Surveys by (II):

Date:

Mean High Water Location (III) (State date and method of location):  
**1956 (Photogrammetric - Kelsh Plotter)**

Projection and Grids ruled by (IV): **J. B. Phillips**

Date: 8/6/57

Projection and Grids checked by (IV): **J. B. Phillips**

Date: 8/6/57

Control plotted by (III): **B. Kurs**

Date: 8/30/57

Control checked by (III): **D. M. Brant**

Date: 9/5/57

Rediel-Plotter Stereoscopic  
Control extension by (III):

**E. L. Rolle**

Date: 3/15/58

**(E. L. Rolle)**  
Planimetry **(B. Kurs)**

Date: 8/8/58

Stereoscopic Instrument compilation (III):

**Contours**

Date:

Manuscript delineated by (III): **C. A. Lipscomb**  
**(scribed)**

Date: 8/5/60

Photogrammetric Office Review by (III): **J. C. Richter**

Date: 4/29/60

Elevations on Manuscript  
checked by (II) (III):

Date:

DESCRIPTIVE REPORT - DATA RECORD  
Camera (kind or source) (III): C&GS Type "W" 6" focal length.

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PHOTOGRAPHS (III)				
Number	Date	Time (EST)	Scale	Stage of Tide
56-W-255	5/1/56	0944	1:30,000	No tidal waters
56-W-256	"	0945	"	" " "
56-W-257	"	0946	"	2.6' above MLW
56-W-278 thru 280	"	1001	"	2.7' " "

## Tide (III)

(From predicted tables)

Reference Station: Newport, R. I.  
 Subordinate Station: Taunton, Massachusetts  
 Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range
-	3.5'	4.4'
2.8'	3.5'	

Washington Office Review by (IV): **S.G.BLANKENBAKER**Date: **OCT. 1967**

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

Land Area (Sq. Statute Miles) (III): **13**Shoreline (More than 200 meters to opposite shore) (III): **2 mi**Shoreline (Less than 200 meters to opposite shore) (III): **None**

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): **27** Recovered: **19** Identified: **4**

Number of BMs searched for (II): Recovered:

Identified:

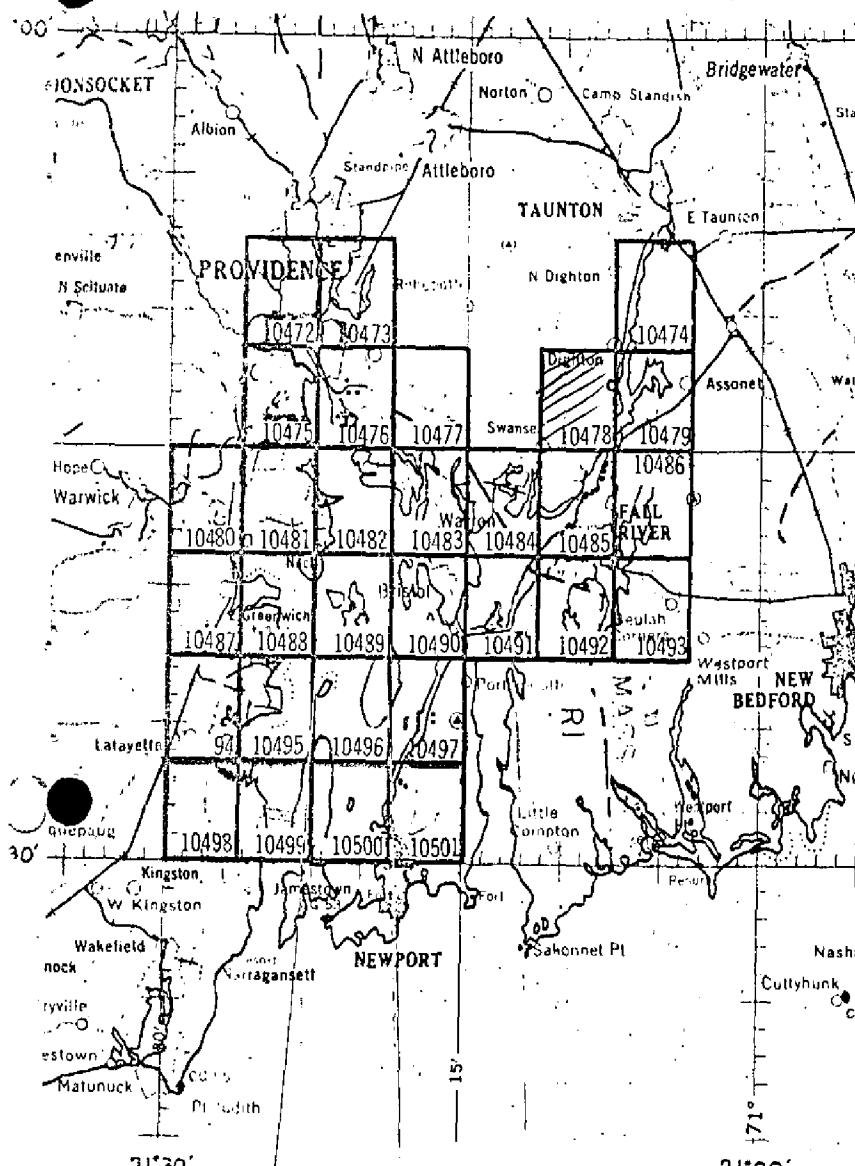
Number of Recoverable Photo Stations established (III): **0**Number of Temporary Photo Hydro Stations established (III): **0**

Remarks:

**THIS MAP WAS NOT FIELD EDITED**

PLANIMETRIC MAPPING PROJECT PH - 163

Narragansett Bay, Mass.- Rhode Island



OFFICIAL MILEAGE FOR COST ACCOUNT		
SHEET NO.	Lin. Mi.	AREA SQ. MILE
10472	10	12
10473	7	13
10474	0	14
10475	8	10
10476	6	11
10477	2	13
10478	1	13
10479	7	12
10480	2	13
10481	4	13
10482	8	4
10483	6	11
10484	8	8
10485	8	10
10486	7	10
10487	3	13
10488	6	6
10489	7	3
10490	8	7
10491	8	6
10492	4	11
10493	3	13
10494	2	13
10495	5	6
10496	5	4
10497	5	7
10498	0	14
10499	10	7
10500	6	4
10501	2	13
TOTALS	158	294

SUMMARY TO ACCOMPANY DESCRIPTIVE REPORT  
T-10478

T-10478 is one of thirty planimetric maps comprising Job PH-163. Project maps cover the Narragansett Bay, Rhode Island-Massachusetts area.

Field inspection preceded compilation. This map was not field edited. The project area was bridged by multiplex and compiled by Kelsh plotter.

The addendum to this Summary includes a discussion of project map accuracy and adequacy.

A cronaflex copy of this map will be registered.

ADDENDUM TO SUMMARIES TO ACCOMPANY  
JOB PH-163 MAPS T-10472 through T-10501  
(ACCURACY AND FUTURE SURVEYS)

Most of the project maps were used in contemporary hydrographic survey operations. Four hydrographic surveys accomplished in the period of time between 1943 and 1955 cover the project area outside the areas of contemporary surveys.

The contemporary hydrographic surveys have been registered. With one exception they are classified "basic". Survey H-8367 is classified as "basic for charting only".

Considerable difficulty was experienced during smooth plotting and verification of some hydrographic surveys in using signals located by plane table methods. Many of the objects were identified on field photographs by the plane table party. Field identification of these objects was re-examined in the Baltimore Office, Compilation Unit. Some of the objects were relocated photogrammetrically and this revised information was furnished for use in smooth plotting.

The Norfolk Processing Office Addendum to Accompany Survey H-8316 mentions difficulties experienced when plotting sextant angles locating piles, piers, shoreline changes, etc. -- they were seldom in agreement with photogrammetric manuscript positions. The Washington office verifier was unable to adjust the subject information using the available hydrographic data. To assist in resolving the discrepancies, the Photogrammetry Division (Washington Office Review Group) rechecked signal locations on Maps T-10472, T-10473, T-10475 and T-10476. Fifty-seven signal locations and random portions of shoreline were revised by graphic methods using available field photographs that included field identified primary control and signals. This additional work is subject to error due to the condition of the photographs and the more limited use of project control; many discrepancies between the surveys, however, were resolved by using the revised information. No requests for similar rechecks were made by verifiers of other hydrographic surveys.

In part, the problems encountered in survey H-8316 (and H-8394) during hydrography and by verifiers can be attributed to the enlargement of these photogrammetric maps from 1:10,000 to 1:5,000 scale for use in hydro support. Similar problems on

9  
8

other hydrographic surveys were attributed, in part, to incorrect transfer of signals, substandard plotting and use of weak sextant fixes.

Control for project bridging (multiplex) was classified "over abundant" (150 stations). While 25% of the stations were "difficult to see", only two stations were not held. Pass points between strips were averaged-adjustment less than 0.5 mm.

In addition to the previously mentioned supplemental work (relocation of signals and shoreline), two stereoplaniograph models were set to test horizontal map accuracy. The models covered parts of maps T-10472 and T-10473. A datum difference was found to exist between Bureau control and MGS and USGS control. Adjustment of these difference produced no appreciable shift in map details.

Rock information mapped on some of the photogrammetric surveys was incomplete as the result of poor photography inadequately supplemented by field inspection. The hydrographer located many rocks missed on the photogrammetric survey; and, in addition, the hydrographic survey reviewers found it necessary to bring forward considerable rock information without the benefit of verification by either the photogrammetric surveys or the contemporary hydrographic surveys.

These surveys have been used, in part, for nautical charting through both direct application of details and indirectly through contemporary hydrographic surveys. As previously mentioned, all but one of the contemporary hydrographic surveys have been registered as "basic surveys". Registration of these maps is recommended. Future use of the maps for hydro support purposes is not recommended due to the previously discussed problems that were encountered. Re-bridging by analytic aerotriangulation and new mapping with new color and infrared photography is recommended.

S. G. Blankenbaker  
S. G. Blankenbaker

NOTE: POLITICAL BOUNDARIES - with the exception of the Mass.-Rhode Island state line, none of the numerous mapped political boundaries are shown on modern charts. In consideration of the loss of some field photographs, and requests by photogrammetric office reviewers for field verification of boundaries, it is recommended that the project maps not be considered sources for political boundaries (with the exception of the state line). *scr*

FIELD INSPECTION REPORT  
Project 25120  
Map T-10478

Please refer to the Field Inspection Report for Map T- 10474  
for all data pertaining to this map.

*Martin C. Moody*

Martin C. Moody  
Cartographic Survey Aid

Approved:

*Naish J. Fitzgerald*  
for Ira R. Rubottom  
Chief of Party

FIELD PHOTOGRAPHS -

56W 255, 257, 277, 278,  
280

Nos. 257, 277, 278 WERE  
MISSING AT THE TIME OF  
FINAL REVIEW - APPARENTLY  
LOST.

## MAP T-10478

## PROJECT NO. Ph-163

## SCALE OF MAP 1:10,000

## SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N. A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
			FORWARD	(BACK)	FORWARD	(BACK)			FORWARD	(BACK)
MARK	C.P. List P. 110 Taunton (Quadrant A. 31)	N.A. 1927	41 48	26.908	830.2	1020.9				
~ ECCENTRIC, 1934			71 07	42.633	984.2	400.9				
~ 98A MGS			41 48	11.407	351.9	1499.2				
~ 98B MGS	A 35	"	71 07	39.123	903.2	182.0				
~ 98C MGS	A 35	"	41 47	51.811	1598.5	252.6				
~ 98D MGS	A 35	"	71 08	02.515	58.1	1327.2				
~ 98E MGS	A 36	"	41 46	11.794	363.9	1487.2				
LITTLE ROCK SOUTH BASE, 1890	C.P. List P. 617	"	71 08	16.887	390.1	995.8				
LITTLE ROCK NORTH BASE, 1890	"	"	41 45	57.689	1779.8	71.3				
BOUNDARY STONE SOMERSET 3, 1887	"	"	71 11	37.756	871.5	523.4				
DIGHTON SWANSEA CORNER 1 (DIGHTON CORNER 2), 1890	"	"	41 48	59.298	1829.5	21.6				
DIGHTON COR. 1, 1890	P. 608	"	71 09	13.20	304.8	1080.7				
DIGHTON CORNER 3, 1890	P. 617	"	41 47	22.04	680.0	1171.1				
			71 10	36.244	836.5	548.3				
			41 47	21.36	659.0	1192.1				
			71 10	17.62	406.9	978.6				
			41 48	59.151	1824.9	26.2				
			71 11	38.390	886.1	498.7				

1 FT = 304.8006 METER J. C. Richter 29 July 1957  
COMPUTED BY A. K. Heywood DATE 28 March 1957  
CHECKED BY J. C. Cregan DATE 13 August 1957  
COMM-DC-57043

MAP T. 10478

Ph-163 SCALE OF MAP 1:10,000

SCALE OF MAP 1:10,000 SCALE FACTOR 1:300

1 FT.=.3048006 METER  
COMPUTED BY: J.

DATE.....

CHECKED BY: J. C. Cregan

DATE 13 August 1957

COMM- DC- 57843

COMPILED REPORT  
Project Ph-163  
T-10478

The Photogrammetric Plot Report for this survey is part of the Descriptive Report for Survey No. T-10478.

31. DELINEATION

The Kelsh plotter was used for delineation.

32. CONTROL

Horizontal control was adequate.

Vertical control inapplicable.

33. SUPPLEMENTAL DATA

Final Name Standard, dated 5 March 1957.

34. CONTOURS AND DRAINAGE

Contours are inapplicable.

Drainage is complete.

35. SHORELINE AND ALONGSHORE DETAILS

All shoreline and alongshore details are from adequate field inspection.

No low-water or shoal lines are shown.

36. OFFSHORE DETAILS

Refer to paragraph 8 of the Field Report.

37. LANDMARKS AND AIDS

Form 567 has been submitted for two landmarks to be charted. See Descriptive Report for T-10485. Page 20 of this report.

38. CONTROL FOR FUTURE SURVEYS

STACK, 1956 (landmark) was located photogrammetrically.

39. JUNCTIONS

Junctions have been made as follows:

To the north - no contemporary survey.

To the east with T-10479.

To the south with T-10485.

To the west - no contemporary survey.

40. HORIZONTAL AND VERTICAL ACCURACY

No comment.

41. BOUNDARIES

A small portion of the town line between Somerset and Fall River in the Taunton River was taken from the USGS Somerset Quadrangle.

42. thru 45 - Inapplicable.

46. COMPARISON WITH EXISTING MAPS

U.S. Geological Survey  $7\frac{1}{2}$  minute Quadrangle Somerset, Massachusetts, scale 1:31,680, edition of 1943 and reprinted 1949.

47. COMPARISON WITH NAUTICAL CHARTS

Chart No. 353, scale 1:40,000, published March 10, 1958 (19th edition) (January 25, 1960).

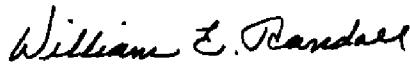
Items to be applied to nautical charts immediately: None.

Items to be carried forward: None.

Respectfully submitted

  
Edward L. Rolle  
Carto. (Photo.)

Approved and forwarded



William E. Randall  
LCDR, C&GS  
Baltimore District Officer

PHOTOGRAMMETRIC OFFICE REVIEW

T- 10478 - Ph 163

1. Projection and grids JCR 2. Title JCR 3. Manuscript numbers JCR 4. Manuscript size JCR

4a. Classification label JCR

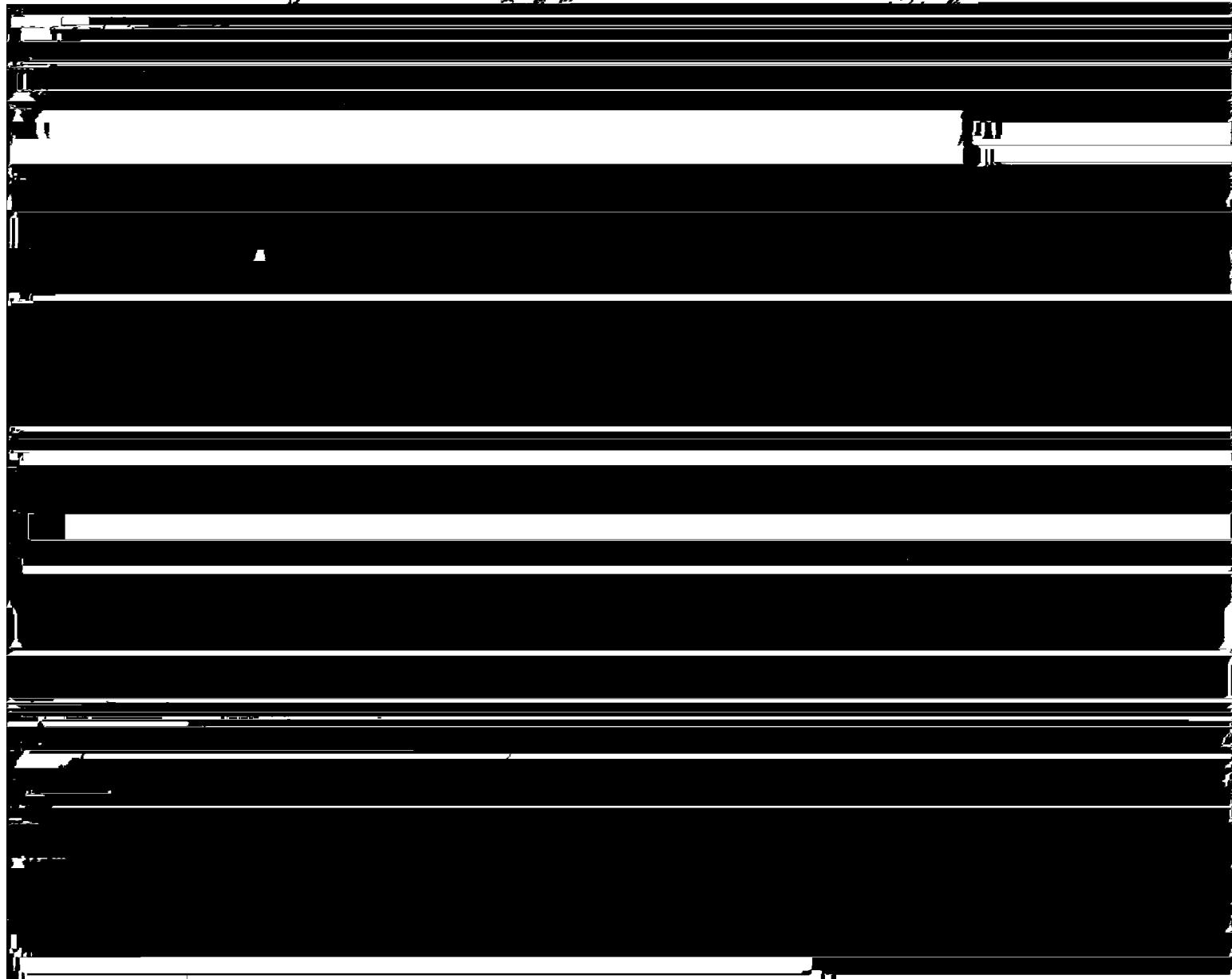
CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy JCR 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) \_\_\_\_\_ 7. Photo hydro stations \_\_\_\_\_ 8. Bench marks \_\_\_\_\_  
9. Plotting of sextant fixes \_\_\_\_\_ 10. Photogrammetric plot report JCR 11. Detail points JCR

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline JCR 13. Low-water line JCR 14. Rocks, shoals, etc. JCR 15. Bridges \_\_\_\_\_ 16. Aids



## NOTE TO REVIEWER

There are discrepancies in position of detail in the vicinity of the following MGS traverse stations along the east edge of the survey. Map detail was checked at stations SOMERSET SPIRE, 1874 and WHITE CHURCH SPIRE, 1874; and is satisfactory.

STA	Dimension from Description	Map Dimension
98A MGS	892 ft. south of centerline of Hart Street 19.3 ft. east of centerline of Route 138	720 ft. 5 "
98B MGS	3552 ft. south of Hart Street 25.7 ft. west of centerline of Route 138	3480 " 40 "
98C MGS	244.3 ft. east of centerline of Route 138	230 "
98D MGS	23.5 ft. west of centerline of County Street	15 "
98E MGS	172 ft. northeast of centerline of Route 138 450 ft. northeast of centerline of Gibbs Street	180 " 440 "

REVIEW REPORT  
T-10478  
October 1967

61. General Statement

This survey has not been used for hydrographic support purposes. In the compiler's "Note to Reviewer" page 14 included in the back of this Descriptive Report -- discrepancies are noted between map dimensions and dimensions given in Massachusetts Geodetic Survey traverse station descriptions in distances between the stations and roads. Several stereoplanigraph test models were set for project maps T-10472 and T-10473. A datum shift was found between C&GS control on T-10472 and a combination of MSG and USGS control on T-10472 and T-10473. A report on the test is included in the Descriptive Report for T-10472; and, the test is discussed in the addendum to the Summary for this map. The subject MGS stations on this map were not used as control for bridging or for compilation.

Differences exist between T-10478 and prior Bureau topographic and hydrographic surveys, and the USGS quad covering the area in horizontal position of shoreline and topographic features in the shoreline area. The only shoreline area on T-10478 is located in the southeast corner of the map (also the area of the MGS control stations mentioned in the preceding paragraph). This area was compiled from Kelsh plotter models set on pass points established by the multiplex bridge and field and office identified Bureau control stations. Compilation photography was not included in the bridge.

62. Comparison with Registered Topographic Surveys

T-5754	1:20,000	1944
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T-5754 was the source of shoreline and topography for H-7939, dated 1951 -- except for corrections and additions applied by the hydro party. Comparison of shoreline and alongshore topography is discussed under side heading 64.

63. Comparison with Maps of Other Agencies

USGS quad, Somerset	1:24,000	1948
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In view of the differences between T-10478 and prior Bureau surveys noted under side headings 61 and 64 in the location

T-10478, cont.

of features, a number of clearly defined shoreline points were scaled from the quad and plotted on the subject map. A shift toward their location on H-7939 was indicated for some points.

64. Comparison with Hydrographic Surveys

H-7939 1:10,000 1951

Differences between the surveys in shoreline location amounts to as much as 25 meters, ground distance. This is accounted for, in part, by the enlargement (from 1:20,000 to 1:10,000 scale) of the source of hydrographic survey shoreline (T-7939); and in some cases faulty transfer of details; local datum errors, however, amounting to approximately 15 meters exist.

65. Comparison with Nautical Charts

The landmark stack located near the south end of the ~~town~~ of Somerset is shown on the chart in the position determined through survey H-7939 (1951). This position differs by approximately 30 meters with the position determined through survey T-10478. No other significant differences were noted.

66. Adequacy of Results and Future Surveys

Differences between the survey and other sources are discussed in preceding sections of this report. In view of the amount and distribution of control, and compilation method used, this survey should meet the required accuracy standards. The addendum to the Summary for this survey includes a discussion of project map accuracy and adequacy. The maps will be registered; remapping, however, is recommended for future hydrographic survey support purposes.

Reviewed by:

S. G. Blankenbaker  
S. G. Blankenbaker

Approved by:

Charles J. Lemer  
Chief, Photogrammetric Branch

J. Ralph Sobieralski MAR 25 1962 John J. Boyer  
Chief, Photogrammetry Division Chief, Marine Chart Division

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-163 (Mass. & R. I.)

T-10478

Bark Street  
Beals Ledge  
Bourn Cemetery  
Broad Cove  
Bristol County  
Buffington Corner  
Chace Avenue  
Chace Street  
Cole River  
County Street  
Dighton  
Elm Street  
Fall River  
Hailes Mill Road  
Hart Street  
Hunters Hill  
Labor in Vain Creek  
Lewin Brook  
Marvel Street

New York, New Haven and Hartford  
North Street  
Palmer Street Cemetery  
Pleasant Street  
Pottersville  
Richmond Hill  
Riverside Avenue  
St. Patrick Cemetery  
Sharps Lot Road  
Simmons Cemetery  
Somerset  
Somerset Avenue  
State Highway 138  
Swansea  
Taunton River  
Whetstone Hill Road  
Williams Street

Approved by:

A. Joseph Wright  
A. Joseph Wright  
Chief Geographer

Prepared by:

Frank W. Pickett  
Frank W. Pickett  
Cartographic Technician

## MANUFACTURED MAPS/QR LANDMARKS FOR CHARTS

TO BE CHARTED  STRIKE OUT ONE  
TP/BE/PF/PE/EP/

I recommend that the following objects which have ~~been~~ been inspected from seaward to determine their value as landmarks be charted on ~~the~~ the charts indicated.  
The positions given have been checked after listing by Joseph W. Vonasett.

Baltimore, Maryland 21 January, 1969

STATUS	MASSACHUSETTS		POSITION				METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	CHARTS AFFECTED
	CHARTING NAME	DESCRIPTION	SIGNAL NAME	LATITUDE *	LONGITUDE *	DATUM			
STACK	Yellow brick ht=153(173)		41 43	71 08	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
SPIRE	Quarry granite clock tower ht=105(366) (1967) Fall River High School Tower,		41 42	71 08	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
STACK SE OF THREE	concrete ht=271(288)		41 43	71 09	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
TOWER	Steel transmission ht=208(208)		41 43	71 06	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
TOWER	steel transmission ht=208(208)		41 43	71 09	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
TOWER	steel transmission ht=208(212)		41 43	71 09	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
TOWER	steel transmission ht=208(212)		41 43	71 09	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
RADIO TOWER S OF FOUR	steel ht=330(330)		41 42	71 10	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
OBELISK	(wooden) ht=105(323)		41 44	71 07	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
CHURCH N.	(stone) ht=117(357)		41 45	71 03	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
SPIRE	Yellow brick ht=200(203)		41 45	71 02	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
CHURCH	stone, ht=130(318)		41 41	71 10	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
SPIRE	white wooden, ht=39(142) (4 White Church Spire, 1874)		41 45	71 08	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353
STACK	concrete, ht=60(66)		41 45	71 07	24 56	NA 1927	Photo T-10165	30-0ct.	350, 353

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

TABULATE SECONDS AND METERS

Com-DC 24555

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## RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-10478

## INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.  
1. Letter all information.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.