
Form 804

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey: Shoreline

Field No.: Ph-114(53) Office No.: T-11151

LOCALITY
State: Massachusetts

General locality: Salisbury Beach

Locality: Blackwater River to Merrimack River

19452-53

CHIEF OF PARTY
E.H. Kirsch, Chief of Field Party
I.R. Rubottom, Tampa Photo. Office

LIBRARY & ARCHIVES

DATE: September 17, 1958
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Tampa Photogrammetric Office
P O Box 1689   Tampa Florida

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

11 June 1953

To: Chief, Division of Photogrammetry
U. S. Coast and Geodetic Survey
Department of Commerce Building
Washington 25, D. C.

Subject: Endorsement to accompany Survey T-11151,
Project Ph-114

The subject survey is being forwarded to you for inspec-
tion and transmission to the hydrographic party. The
survey was compiled without the benefit of the use of the
1953 photography. This photography was not received until
after the compilation was almost completed. Since we are
trying to maintain a tight schedule, to have included this
photography would have thrown us behind. After consulta-
tion with the personnel here, it was decided that since the
addition of this new photography would only strengthen a
very small area, it could be applied when the manuscript
is returned for completion.

The 1953 photographs will be used as far as practicable
in the delineation of the other surveys.

It is hoped that this will meet with your approval.

J. E. Waugh
CIDR, USC&GS
Officer in Charge

JEW: mb

73—Send the sheet ahead
Put this letter in the side report
that goes with the sheet
31. **DELINEATION.**

The shoreline, foreshore details and photo-hydro points only, have been shown. This was done due to the hydrographic party being in urgent need of the map manuscript in order to start its survey. The remainder of the delineation will be completed when the manuscript and pertinent data are returned from the Washington Office. The complete compilation report will be written at that time.

35. **SHORELINE AND ALONGSHORE DETAILS.**

The shoreline inspection was adequate as a whole. Some difficulty was encountered while delineating the M.H.W.L. near the inshore ends of the rock jetties at the mouth of the Merrimack River. After much stereoscopic examination and study, it is thought this shoreline is in its true position. Portions of the rock jetties gave the appearance of being under water at high tide. This should be checked in order that such areas may be depicted with a dashed line. There were no notations on the field photographs pro or con as to the elevation of these jetties above M.H.W.

37. **LANDMARKS AND AIDS.**

Landmarks will be submitted by the hydrographic party as per project instructions. Form 567 is being submitted herewith for nonfloating aids.

38. **CONTROL FOR FUTURE SURVEYS.**

One (1) recoverable topographic stations has been submitted on Form 524; and listed under Item 49.

Eight (8) photo-hydro stations with descriptions have also been listed under item 49.

[Signature]

Rexford E. Smith, Jr.
Carto Photo Aid

APPROVED AND FORWARDED:

[Signature]

J. E. Waugh, Chief of Party
PHOTO-HYDRO STATIONS

PRE 5101 - Center of ditch intersection, north shore of river about 900 feet east of sand spit.
SAL 5102 - Southernmost of two small cedars northwest of rock outcrop.
DOG 5103 - Ditch intersection north side of river, east side of Fox Island Creek.
AGE 5104 - Most northerly pole in group of eight poles (at time of photograph, the holes were dug and the poles were on the ground. They have been erected and the location checked by planetable)
CAB 5105 - Apex of roof of Coast Guard Lookout Tower.
DOL 5106 - Center of outer dolphin at Coast Guard Pier. (*dolphins*)
POP 5107 - Center of center cupola at bath house.
JAP 5108 - East gable at maintenance building.

TOPOGRAPHIC STATIONS

SALISBURY BEACH WATER TANK, 1953. (*from 5/24*)
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by

Reedford E. Smith, Jr.

<table>
<thead>
<tr>
<th>STATE</th>
<th>MASSACHUSETTS</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td></td>
<td></td>
<td>NEWBURYPORT HARBOR LIGHT</td>
<td></td>
<td></td>
<td>42 10.3</td>
<td>70 49.9</td>
<td>Triang.</td>
<td>1912</td>
<td>X X 1206</td>
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<td>BLACKROCK DAYBEACH</td>
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<td></td>
<td>42 10.7</td>
<td>70 49.7</td>
<td>1927</td>
<td>1921</td>
<td>X X 67</td>
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<tr>
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<td></td>
<td>HOPKINS PARK DAYBEACH</td>
<td></td>
<td></td>
<td>42 10.3</td>
<td>70 51.0</td>
<td>(T.11151)</td>
<td>1953</td>
<td>X X 67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LORALACH RIVER ENTRANCE LEADING LIGHT</td>
<td></td>
<td></td>
<td>42 10.3</td>
<td>70 51.0</td>
<td>1953</td>
<td>1953</td>
<td>X X 67</td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of c...
50.

PRELIMINARY
PHOTOGRAMMETRIC OFFICE REVIEW
7.11151


CONTROL STATIONS

ALONGSHORE AREAS
(Nautical Chart Data)

PHYSICAL FEATURES

CULTURAL FEATURES

BOUNDARIES
31. Boundary lines XX 32. Public land lines XX

MISCELLANEOUS

Jesse A. Giles
Reviewer

William O. Roane
Supervisor, Review Section or Unit

40. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT
42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Compiler

Supervisor

43. Remarks:
## Record of Application to Charts

<table>
<thead>
<tr>
<th>DATE</th>
<th>CHART</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/10/53</td>
<td>331</td>
<td>R.K.D.</td>
<td>Before After Verification and Review</td>
</tr>
<tr>
<td>1/24/57</td>
<td>213</td>
<td>J.Walker</td>
<td>Before After Verification and Review</td>
</tr>
</tbody>
</table>

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.
DATA RECORD

Project No. (II): Ph-114 (53) Quadrangle Name (IV):

Photogrammetric Office (III): Tampa, Fla. Officer-in-Charge: Ira R. Rubottom

Instructions dated (II) (W):
Supp. No. 1 13 March 1953 Copy filed in Division of
" " 2 28 March 1953 Photogrammetry (IV)
" " 3 30 April 1953 Supp. No. 5 - 25 June 1953
" " 4 6 May 1953 (III) - 20 February 1953
" " 5 26 May 1953

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:10,000 Stereoscopic Plotting Instrument Scale (III): Inapplicable
Scale Factor (III): None

Date received in Washington Office (IV):

Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV): 4/14/57

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

Geographic Datum (III): N.A. 1927 Vertical Datum (III): M.H.W.

Reference Station (III): SAND 1943

Lat.: 42°50'43.910" (1355.0m) Long.: 70°49'01.292" (29.3m) Adjusted

Plane Coordinates (IV):

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.
Areas contoured by various personnel
(Show name within area)
(II) (III)
DATA RECORD

J. C. Lajoye  
H. R. Spies  
L. F. Beugnet  

Field Inspection by (II):  

March 1953 to October 1953

Planetable contouring by (II):  
Inapplicable

Completion Surveys by (II):  
Inapplicable

Mean High Water Location (III) (State date and method of location):  
20 August 1953  
Air Photo Compilation

Projection and Grids ruled by (IV):  Jack Allen (W. O.)  
Date: 9 April 1953

Projection and Grids checked by (IV):  H. D. Wolfe (W. O.)  
Date: 10 April 1953

Control plotted by (III):  I. I. Saperstein  
Date: 7 May 1953

Control checked by (III):  R. J. Fate  
Date: 7 May 1953

Radial Plot (III): M. M. Slavney  
Date: 17 May 1953

Stereoscopic Instrument compilation (III):  
Planimetry  
Contours  
Inapplicable

Manuscript delineated by (III):  R. E. Smith  
Date: 20 Jan. 1954

Photogrammetric Office Review by (III):  J. A. Giles  
Date: 27 Jan. 1954

Elevations on Manuscript  
checked by (II) (III):  
Inapplicable
Department of Agriculture, by Robinson Aerial Surveys, Inc. - DPP
Fairchild K-17 6" Metrogon Lens - Camera J
PHOTOGRAPHS (III)

<table>
<thead>
<tr>
<th>Number</th>
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<th>Scale</th>
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<td>8-26-52</td>
<td>1234</td>
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<tr>
<td></td>
<td>&quot; 100</td>
<td></td>
<td>1235</td>
<td></td>
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<td>101-102</td>
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<td>1236</td>
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<tr>
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<td>77</td>
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<td>1101</td>
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<td></td>
<td>89-94 incl.</td>
<td></td>
<td>1313-1318</td>
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<tr>
<td></td>
<td>53-J-283-284</td>
<td>4-22-53</td>
<td>0849-0850</td>
<td></td>
</tr>
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</table>

Computed from the predicted tide table

Reference Station: PORTLAND MAINE
Subordinate Station: MERRIMACK RIVER ENTRANCE
Subordinate Station: NEWBURYPORT MERRIMACK RIVER

Washington Office Review by (IV):  Lena T. Stevens
Final Drafting by (IV):  D. C. Lach
Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 7
Shoreline (More than 200 meters to opposite shore) (III): 45

Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 26 Recovered: 19 Identified: 11
Number of BMs searched for (II): 4 Recovered: 4 Identified: 4
Number of Recoverable Photo Stations established (III): 1
Number of Temporary Photo Hydro Stations established (III): #21

Remarks: Thirteen (13) of these were established by the field party in addition to those identified and established on the preliminary survey.
Summary to Accompany T-11151

Field instructions were issued for Ph-114 on 13 March 1953 to provide shoreline and control for inshore hydrographic surveys and to provide standard shoreline manuscripts for chart compilation. The hydrographic phase of this surveying was accomplished in the summer of 1953 under instructions for project CS-355 (Plum Island Sound to Portsmouth Harbor) and CS-361 (Cape Porpoise Harbor).
THE FIELD INSPECTION REPORT
15 filed with Report for 7/1/48
was submitted separately.
PHOTOGRAMMETRIC PLOT REPORT.

This report submitted separately. (Is now apart of 711147)

31. DELINEATION.

The manuscript was compiled by the graphic method.

The following photographs were of very poor scale:

DPP-9K-99 through DPP-9K-103
53-J-283 and 53-J-284

The field inspection was incomplete in relation to the vegetation but with stereoscopic examination and study, the delineation is believed to be correct.

Wherever the field inspection did not agree with the 1953 photography it has been disregarded.

32. CONTROL.

Reference Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA.

None

34. CONTOURS AND DRAINAGE.

Contouring inapplicatin.

The drainage has been delineated according to the photographs.

35. SHORELINE AND ALONGSHORE DETAILS.

Reference Item 35 of Preliminary Compilation Report. All changes in the shoreline made after the preliminary compilation, which were indicated by the field party, have been shown in red. No low-water or shoal lines were shown.
since none were indicated by the field party nor could they be determined by office interpretation of the photographs.
See Review Sheet WQR

36. OFFSHORE DETAILS.
No statement.

37. LANDMARKS AND AIDS.
Reference Item 37 of Preliminary Compilation Report.

38. CONTROL FOR FUTURE SURVEYS.
Reference Item 38 of Preliminary Compilation Report. Additional photo-hydro stations, located by the field party, are listed under Item k9 with their descriptions.

39. JUNCTIONS.
T-11149 on the north = in agreement
T-11150 on the west = in agreement
T-11152 on the south = in agreement
No survey on the east = bounded by the Atlantic Ocean

40. HORIZONTAL AND VERTICAL ACCURACY.
No statement.

41. STATE BOUNDARIES.
The state boundary line between NEW HAMPSHIRE and MASSACHUSETTS could not be delineated because of insufficient information.
46. COMPARISON WITH EXISTING MAPS.

Comparison was made with Army Map Service Quadrangle, NEWBURYPORT EAST, MASSACHUSETTS—NEW HAMPSHIRE, scale 1:25,000, dated 1944. The two were in fair agreement.

47. COMPARISON WITH NAUTICAL CHARTS.

Comparison was made with USC&GS Nautical Chart No. 331 (Harbor Chart), scale 1:20,000, dated July 1939 (12th Edition), corrected to 17 September 1951. The two were in fair agreement.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY.

None.

ITEMS TO BE CARRIED FORWARD.

None.

Rexford E. Smith, Jr.
Carto Photo Aid

APPROVED AND FORWARDED:

Ira R. Rubottom,
Chief of Party
48. GEOGRAPHIC NAME LIST.

All names shown are base map names. No additions or deletions were submitted by the field inspector.

ALLEN ROCK ✓
ATLANTIC AVENUE ✓
ATLANTIC OCEAN ✓

BEACH ROAD ✓
BLACK ROCK CREEK ✓
BLACKWATER RIVER ✓
BOSTON AND MAIN RAILROAD ✓
BRIDGE ROAD ✓
BROWNS POINT ✓
BUTLERS TOOTHPICK ✓

CUSHING ✓

DOCK LANE ✓

FERRY ROAD ✓
FOX ISLAND CREEK ✓

HOPE CHAPEL ✓<OK, location?

JOPPA ✓

LONG HILL CEMETERY ✓

MAJORS ROCK ✓
MASSACHUSETTS ✓
MERRIMACK RIVER ✓
MERRILL CREEK ✓

NEW HAMPSHIRE ✓
NORTH BOULEVARD ✓

PLUM ISLAND POINT ✓

RINGS ISLAND ✓

SALISBURY ✓
SALISBURY BEACH ✓
SEABROOK BEACH ✓
STAR OF THE SEA CHAPEL ✓<OK, location?

STATE 1A ✓
48. GEORPHIC NAME LIST (CONTINUED)

TOWN CREEK
U.S. 1

Names approved
10 - 4 - 5 - 4
A. J. W.
49. **NOTES FOR THE HYDROGRAPHER.**

The following photo-hydro stations were identified in the field and are in addition to those established on preliminary survey. (Reference Preliminary Compilation Report):

- **PAT** East Gable, white house with green roof and two TV aerials.
- **LOW** East gable, brown house, mouse-colored gable to east.
- **EDD** Peak of roof, brown shingled house with white trim.
- **POL** Chimney, south gable, white house, black roof - N-S Ridgepole.
- **MAN** East gable, mansard roof white house trimmed in green.
- **SINO** Tower for Mr. Horn.
- **PAR** Southeast corner of high part of dance hall.
- **HIM** Chimney, center of roof, blue house.
- **RAM** Northeast corner of cream-colored apartment house.
- **USE** Water gable, white house.
- **GIN** East gable, gray house with green ginger bread.
- **GAM** Center of westerly point of two tanks.
- **HAT** South gable, black boat house.
- **BAG** Pole south of eight.
### TIDE COMPUTATION

**PROJECT NO. Ph-114(53) T-11151**

**Reference station**: PORTLAND, MAINE  
**Subordinate station**: MERRIMACK RIVER ENTRANCE  
**Mean range**: 8.0  
**Ratio of ranges**: 0.9

<table>
<thead>
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<th>Time and date of exposure</th>
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<th>Height x Ratio of ranges</th>
<th>Time</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>High tide</td>
<td>9.5</td>
<td>8.6</td>
<td>High tide at Ref. Sta.</td>
</tr>
<tr>
<td>Low tide</td>
<td>-0.5</td>
<td>-0.5</td>
<td>Time difference</td>
</tr>
<tr>
<td>Duration of rise or fall</td>
<td>6 23</td>
<td></td>
<td>Corrected time at Subordinate station</td>
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<th>Tabular correction</th>
<th>Stage of tide above MLW</th>
<th>Photo. No.</th>
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<td>DPP-14K-90</td>
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<td>8.6</td>
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<tr>
<td>Interval</td>
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<td>Stage of tide above MLW</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 16</td>
<td>7.7</td>
<td>Feature above MLW</td>
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Computed by R. E. Smith  
Checked by R. A. Reese
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<th>Time</th>
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<td>Duration of rise or fall</td>
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<td>7.1</td>
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<tr>
<td>Low tide</td>
<td>8:16</td>
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Computed by R. E. Smith    Checked by R. A. Reese
**Tide Computation**

**Project No. Ph.114(53) T-11151**

**Time and Date of Exposure:** 1215, 4/29/53

**Reference Station:** Portland, Maine

**Subordinate Station:** Newburyport, Merrimack River

**Mean Range:** 7.8

**Ratio of Ranges:** 0.9

<table>
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<th>Time</th>
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<th>Height x Ratio of Ranges</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>Low tide feet</td>
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<th>Duration of Rise or Fall</th>
<th>Range of Tide</th>
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<td></td>
<td>6.5</td>
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<tbody>
<tr>
<td></td>
<td>11 09'</td>
<td>+0 50'</td>
<td>11 59'</td>
<td>+0 50'</td>
<td>17 55'</td>
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<table>
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<th>Time H. T.</th>
<th>Required Time</th>
<th>Interval</th>
<th>Ht. H. T. or L. T.</th>
<th>Tabular Correction</th>
<th>Stage of Tide above MLW</th>
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<tbody>
<tr>
<td>11 59'</td>
<td></td>
<td>12 15'</td>
<td></td>
<td>0.0</td>
<td>Feature bares</td>
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<tr>
<td>0 16'</td>
<td></td>
<td></td>
<td></td>
<td>7.1'</td>
<td>Stage of tide above MLW</td>
</tr>
</tbody>
</table>

- Feature bares
- Stage of tide above MLW
- Feature above MLW

**Photo No.:** HWY SWING BR RR **2**

*Computed by R. E. Smith, Checked by R. A. Rees*
PHOTOGRAMMETRIC OFFICE REVIEW

T-11151


CONTROL STATIONS


ALONGSHORE AREAS

(Nautical Chart Data)


PHYSICAL FEATURES


CULTURAL FEATURES


BOUNDARIES


MISCELLANEOUS


40. (Signature)

Reviewer

William A. Rasura

Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Compiler  

Supervisor

43. Remarks:
After the map manuscript was completed the boat sheets were made available to this office and the low-water line was transferred in red pencil. It was not possible to fill in the gaps of the low-water line left by the hydrographer as the line shown does not conform with any discernible tone or line on the photographs. The low-water line as transferred from the boat sheet is being retained on the manuscript in red pencil for convenience of the Washington Office Review Section.

William A. Rasweil
61. **General:**

Stick-up was applied to the map manuscripts as a part of the compilation process, i.e., prior to review. The map manuscripts at this phase are labeled "Advance Print".

These map manuscripts were not altered during review. Any additions, alterations, or deletions recommended by the reviewer were recorded on review correction overlays to be used by the drafting section for application of the called for revisions on black line impressions on vinylite. These positives on vinylite, with corrections applied, serve as the final map manuscripts.

62. **Comparison with Registered Surveys:**

<table>
<thead>
<tr>
<th>T-355</th>
<th>1:10,000</th>
<th>1851 Newburyport &amp; Merrimac River</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-835</td>
<td>1:10,000</td>
<td>1855 East Salisbury to Hampton River</td>
</tr>
<tr>
<td>T-2237</td>
<td>1:10,000</td>
<td>1896 Newburyport dock survey</td>
</tr>
<tr>
<td>T-4426</td>
<td>1:10,000</td>
<td>1928 Shoreline from Cushing S. to 42° 46'</td>
</tr>
</tbody>
</table>

These surveys are superseded by T-11151 for charting shoreline areas.

T-11151 is not complete with respect to rocks mapped by the old surveys. These will be mapped by H-8096 (ECFP-1353).

63. **Comparison with Maps of Other Agencies:**

USE Newburyport East, Mass., N. H. 1:25,000 1947

Because of recent changes, the shoreline area in common with T-11151 is superseded by T-11151 for charting purposes.

64. **Comparison with Contemporary Hydrographic Surveys:**

H-8096 (ECFP-1353) 1:10,000 1953

This survey is not available for comparison. The LWL and any rocks or ledges in the area of T-11151 will be charted from H-8096.

This comparison has been made. There are no conflicts. 6/15/55
65. **Comparison with Nautical Charts:**

   1206 1:80,000  Oct. 1948  cor. March 1954
   331 1:20,000  July 1939   " Sept. 1951

   T-11151 supersedes the charts for MHWL and culture in their common areas. H-8096 provides the MLWL and rocks.

66. **Bridges:**

   The highway bridge over Blackwater River is not listed in the Bridge List or clearances noted on Chart 1206.

   Clearances for the railway and the highway bridges over the Merrimac River do not agree with the Bridge List.

   **Bridge List**
   
   Field Inspection at 10:15 EST
   April 29, 1953. Water level - (5.9)

<table>
<thead>
<tr>
<th>Hwy, SW</th>
<th>H.Cl.(left) 76 ft.</th>
<th>76.2 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H.Cl.(right) 71 &quot;</td>
<td>73.7 ft.</td>
</tr>
<tr>
<td>V.Cl.</td>
<td>20.8 ft. (MLW)</td>
<td>19.1 (MLW)</td>
</tr>
<tr>
<td>V.Cl.</td>
<td>13.2 &quot; (MHW)</td>
<td>10.9 ft. (MHW)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RR. SW</th>
<th>H.Cl.(left) 69 ft.</th>
<th>68.9 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H.Cl.(right 64 &quot;</td>
<td>66.5 ft.</td>
</tr>
<tr>
<td>V.Cl.</td>
<td>20.8 ft. (MLW)</td>
<td>19.6 ft. (MLW)</td>
</tr>
<tr>
<td>V.Cl.</td>
<td>13.2 ft. (MHW)</td>
<td>11.4 ft. (MHW)</td>
</tr>
</tbody>
</table>

67. **Accuracy:**

   Because the radial plot report was not available, the strength of the plot is unknown.

   Field inspection notes were faithfully followed, and delineation is good so that T-11151 meets charting needs.

Reviewed by:

[Signature]

Lena T. Stevens

Approved by:

[Signature]

Chief, Review Section, Div. of Photogrammetry

[Signature]

Chief, Division of Charts

[Signature]

Chief, Div. Photogrammetry

[Signature]

Chief, Div. Coastal Surveys

15 Aug 1958