8758

Diagd. on Diag. Ch. 1218

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Photogrammetric Topographic		
· T-8758		
Field No. Office NPh-7(46)C		
LOCALITY		
State Delaware		
General locality Delaware River		
Locality Smyrna		
*		
1946		
A Comme		
CHIEF OF PARTY		
Thos. B. Reed		
LIBRARY & ARCHIVES		

June 21, 1948

B-1870-1 (1)

DATA RECORD

T- 8758

Quadrangle (II): SMYRNA

Project No. (II): PH-7(46)-C

Field Office: Camden, New Jersey

E. L. Jones

Compilation Office:

Chief of Party:

Chief of Party:

Baltimore Photogrammetric Office

Thos. B. Reed

Instructions dated (II III): 25 March 1946 (Field) 19 July 1946 (Office)

Copy filed in Descriptive Report No. T-

Division of Photogrammetry Office Files

Completed survey received in office:

23 Jan 1948

Reported to Nautical Chart Section:

Reviewed: 18 May 1948

Applied to chart No.

Dates

Redrafting Completed:

Registered: 10 June 1948

Published:

Compilation Scale: 1:20,000

Published Scale: 1:24,000

Scale Factor (III): 1.000

Geographic Datum (III): N.A. 1927

Datum Plane (III):

Reference Station (III): FLEMING, 1933

Lat.: 39° 21' 15.214" 469.2m

Long.: 75° 33' 00.748" 17.9m

Adjusted beceutobentic

State Plane Coordinates (VI):

Del. State Grid:

x = 462,235.88 Feet N.J. State Grid:

Y = 493,228.86 Feet

x=1,750,146.30 Feet

Y=190,937.58 Feet

Military Grid Zone (VI)

PHOTOGRAPHS (III)

		75th meria	tan	
Number	Date	<u>Time</u>	Scale	Stage of Tide
15539-41 incl.	3-21-46	1024	1:20,000	5.51 above MLW
15557 & 58	3-21-46	105]	1:20,000	5.9' above MLW
1601 -1615 incl.	3-1-46	1512-1530	1:10000	6.6' above MLW

Actual tide observation at Philadelphia with correction Tide from (III): to "Liston Point to Woodland Beach".

Mean Range:

5.81

Spring Range:

6.71

Camera: (Kind or source) U.S.Coast and Geodetic Survey nine lens camera. Focal length 84".

Field Inspection by:

date:

E.L.Jones

Juhe-Aug. 1946

Field Edit by: Donald G. Flippo R.J. Sipe, Chief of Party

date: 17 July to 31 July 1947

Date of Mean High-Water Line Location (III): As of date of photographs supplemented by field inspection during June-August 1946.

Projection and Grids ruled by (III) T.L.J.

date: 8-28-46

checked by: T.L.J.

date: 8-28-46

Control plotted by: L.A.Senasack

date: 10-10-46

Control checked by: G. O. Fellers

date: 10-10-46

Radial Plot by: F.J. Tarcza & H.R. Rudolph

date: 1-47

Detailed by: F.M. Senasack

date: 1-20-47 to 2-7-47 4-1-47 to 5-12-47

Reviewed in compilation office by: J.W. Vonasek

date: 5/21/47 to 6/5/47

manuscript
Elevations on Field Edit Sheet checked by: J.W.Vonasek

date 5-29-47

STATISTICS (III)

Land Area (Sq. Statute Miles): 55

Shoreline (More than 200 meters to opposite shore): $1\frac{1}{2}$ statute miles

Shoreline (Less than 200 meters to opposite shore): 342 statute miles

Number of Recoverable Topographic Stations established: 4 Number of Bench Marks established: ~ 21

Number of Temporary Hydrographic Stations located by radial plot: none

Leveling (to control contours) - miles: 99.5 statute miles

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

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

Remarks:

Field Edit Corrections by: Gladys S Nottenburg

Jan. 1948

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		. Senasack				.Fellers	DATE		

SYMBOLS Project Ph-7 (46) 29 April 1946

MEAN HIGH WATER LINE (fast line)	
OFF SHORE EDGE OF MARSH (apparent shoreline)	
GRASS IN WATER	Gr
IN SHORE LIMITS OF MARSH.	
MEAN LOW WATER LINE (definite)	
APPROXIMATE MEAN LOW WATER LINE	
INTERMITTANT DRAINAGE	: <u></u>
PERENNIAL DRAINAGE	
CONTOURS	20_
PLANE TABLE ELEVATIONS FOR CONTOURS	×17 or ×17
FLY LEVEL ELEVATIONS	- CE 12
RENCH MARKS, marked and described	QJ-16,1940(dm)
TOPO STATIONS, natural object, described	_tsta(d)
TOPO STATIONS, marked and described	GILL, 1946 — TSta (dm)
TCPO STATIONS, addition Hydro Control, not named	MINK, 1946 — TSta+8703
LANDMARKS	- Landonark; - STACK, on etal (55 high
FIXED AIDS TO NAVIGATION, (official light list name)	CHERRY PT Lt. 13
TRIANGULATION STATIONS	_ 45MITH, 1940
SUBSTITUTE STATIONS,	- 5 Sta - 4 SMITH, 1940
BOUNDARIES: Refer to U.S.G.S. Bulletin 788 E for symbol, ink in purple or violet ink.	A SMITH, 1940

ABBREVIATIONS FOR FIELD INSPECTION ON PHOTOS Project Ph-7 (46) 12 April 1946

BUILDINGS (Cont'd) ROARS: Bo Ho - boat house Rd - road Ch - church X - apandoned (delete) C.H. - courthouse RR - railroad track P.O. - post office RR (2) - railroad, 2 tracks Sch - school 1, 2, 3, 4, 4a, Tr - road class R R Sta - railroad station SHORELINE: Hosp - hospital MHW - mean high water MLW - mean low water LANDMARKS & AIDS TO NAV: M - marsh TK - tank Mud - mud TK (ELEV) - tank elevated S - sand Stk - stack Rky - rocky Bn - beacon Rk - rock Ht - light Dk - dock Tr - tower Jet - jetty Rg - range F Rg - front range Bkhd - bulknead R Rg - rear range STREAMS PONDS: Chy - chimney D - large ditch Cup - cupola DX 0 small dithh (delete) S. Pipe - stand pipe CR - creek R.Tr - radio station P - pond Gab - gable OBSTRUCTIONS TO NAV: BOUNDARIES: Snl - snoal Bdry - boundary Obstr - observation Cem - cemetery F - fence Cov - covers Wk - wreck Subm - submerged BRIDGES: Br - bridge Dol - dolphin Culv - culvert VEX-ENATION: C1 - clearance Gr - grass Hor - horizontal WH - woods, hard wood Ver - vertical (above MHW) WS - woods, soft wood Wo - wood WM - woods mixed Conc - concrete B - brush

BUILDINGS:

d - dwelling

0 - orchard

SH - scattered hardwood SS - scattered softwood

SM - scattered mixed

o - barn

STATIONS:

H Sta - hydrographic station

BM - bench mark

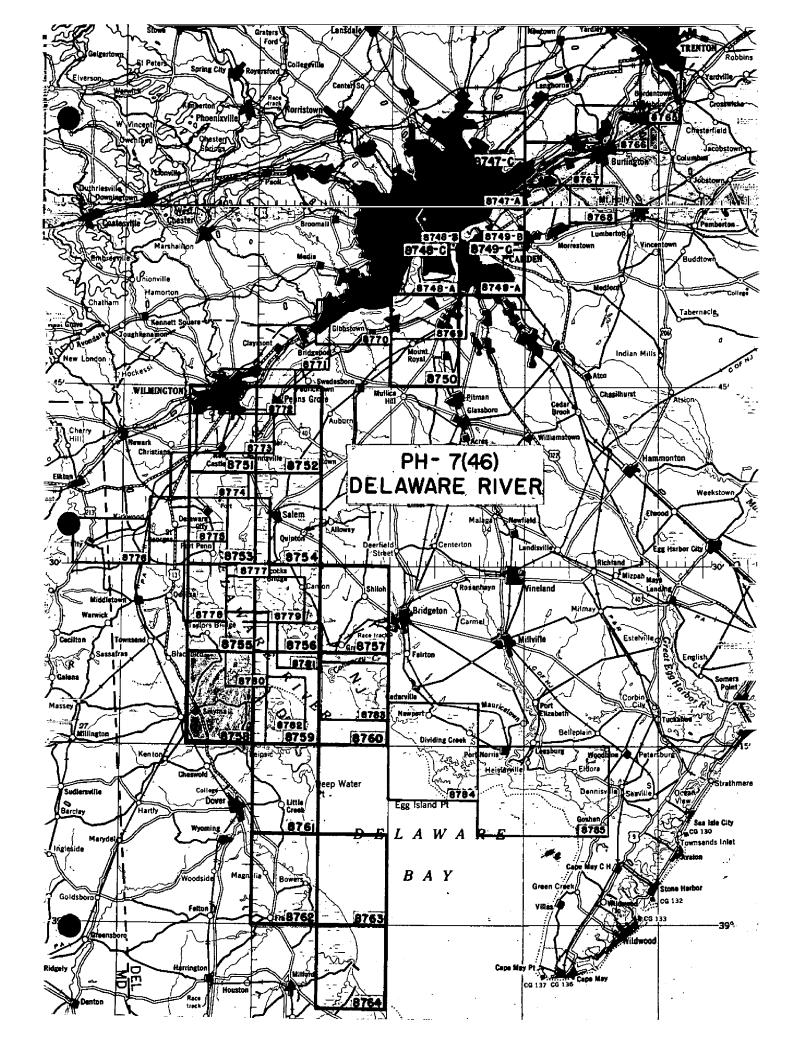
T Sta - recoverable topo station

S Sta-substitute station

TBM - tidal bench mark

(d) - described

(dm) - described and marked



FIELD INSPECTION REPORT
T 8758 (39° 15' / 75° 30' / 7.5')
Project Ph-7 (47)
Sub-project C
E. L. Jones, Chief of Party

All phases of field work were completed in accordance with the Director's Instructions, Project Ph-7 (46) dated 25 March 1946, and Supplemental Instructions No. 1, dated 14 June, 1946, except for deviations herein noted.

Office Files.

The work was started early in May 1946, by I. Y. Fitzgerald, Engineering Aid. He completed the Shoreline Surveys, Horizontal Control Recovery and Identification, EM recovery and identification and Supplemental 4th order levels. R. E. Rawson, Photo. Aid, completed the southern half of the contouring and the writer, J. A. Clear, Engineering Aid, completed the contouring of the quadrangle as indicated on the attached sketch.

Description of the Area;

For the most part the land area is undulating with the elevation ranging from sea level to about 70 feet above Mean Sea Level.

Geologically the country is old with no prominent drainage patterns in the low lands or flood plains cordering the tidal zone. In the western portion of the quadrangle, the drainage pattern is more pronounced.

The entire area is a prosperous agricultural section, which is the principal industry of the area. There is some commercial fishing, but it is on a very small scale.

2. Completeness of Field Inspection:

The field inspection is felt to be adequate and complete. For full details refer to appropriate paragraph readings below

3. Interpretation of the Photographs:

Two sets of photographs were used, single lens 1/10,000 scale contact prints, for shoreline inspection and horizontal control identification, and 9 - lens 1/20,000 scale photos for vertical control identification, contouring and interior inspection.

Since photography was of the first part of March, 1946, no difficulty was encountered in the interpretation of photographic

details for the various phases of the work. All photographs filed in Division of Photogrammetry General Files.

4. Horizontal Control:

Twelve horizontal control stations were searched for or recovered, of these four were identified on the photographs either by the substitute station method or pricked direct. However, only one station, Smyrna, Methodist Episcopal Church Spire, need to be used as Horizontal Control according to Instructions for the project. Therefore, only one pricking card for Horizontal Control will be submitted.

5. Vertical Control:

Vertical control consisted of recovery and identification of existing bench marks on 9-lens photographs and establishing the following levels.

3rd order levels

Approximately 9.5 linear miles of 3rd order levels were completed during April 1946, by M. A. Stewart, Engineering Aid. Permanent Bench Marks were established at one mile intervals and identified on the photographs. Equipment and methods used were those as prescribed by the Division of Geodesy for 2nd order leveling.

4th order levels

About 90 linear miles of 4th order levels were completed during May, 1946. Elevations were determined by wye leveling methods to the nearest 0.01 foot. The maximum error of closure was 0.07 feet of error; all errors of closure greater than 0.20 feet were prorated throughout the line. At about 1/2 mile intervals spot elevations were established and identified on the 9-lens photographs.

Contours and Drainage:

Contouring was done in the field directly on 1/20,000 scale 9-lens photographs by planetable methods. The contour interval was 10 feet.

Preliminary to field work a stereoscopic examination of the photographs was made; drainage was delineated and other data entered on the photos. After field work was completed, another stereoscopic examination was made to check the shapes of contours.

7. Mean High Water Line:

The average range of tide is 6.0 feet.

8. Low Water Line:

In general the low water line was not delineated because of the difficulty of viewing the shoreline at Low Water. Where such visits were practical, it was generally noted that the low water line and apparent shoreline are synonymous because most banks are perpendicular to the water. In a few instances the low water line was found to be outside the apparent shoreline because storms causing the banks to slough off, created a mud plain.

9. Wharves and Shoreline Structures:

No comment necessary.

10. Details Offshore from High Water:

No comment necessary.

11. Landmarks and Aids to Navigation:

The Azimuth of Smyrna Range had previously been determined by triangulation. There is one new landmark to be charted.

All other data on landmarks and Aids to Navigation is listed on the accompanying form 567 and accompanying Chart Section.

12. Hydrographic Control:

Four recoverable topographic stations were established, identified on the photographs and described on Form No. 524. by tich and Six additional recoverable topographic stations were established and described on Form No. 524. See "Notesto Office Reviewer" attached to this report.

13. Landing Fields and Aeronautical Aids:

Form 524 cords filed in Division of Photogrammetry General Files

- Filed in Division of Charts.

None.

14. Roads:

No comments necessary.

15. Bridges:

Only one bridge of any importance. A, 2 span, swing bridge over Smyrna River at Fleming's Landing. Pertinent data on bridge appears on Photo. D-1612.

16. Buildings:

No comments necessary.

17. Boundaries:

All boundaries were verified in the field and delineated on the photographs at the time of contouring.

ls. Geographic Names: 2

Geographic Name information was obtained by the author at the time of contouring. All geographic name information will be compiled into a special report prepared by Lowell I. Bass, Engineering Aid.

19. Coast Pilot Information:

Coast Pilot information was investigated during the course of field work, and a special project report compiled by George E. Varnadoe, Photogrammetrist. Report not submitted.

Submitted 30 August 1946

Field Review 18 September 1946

James E. Hundley,

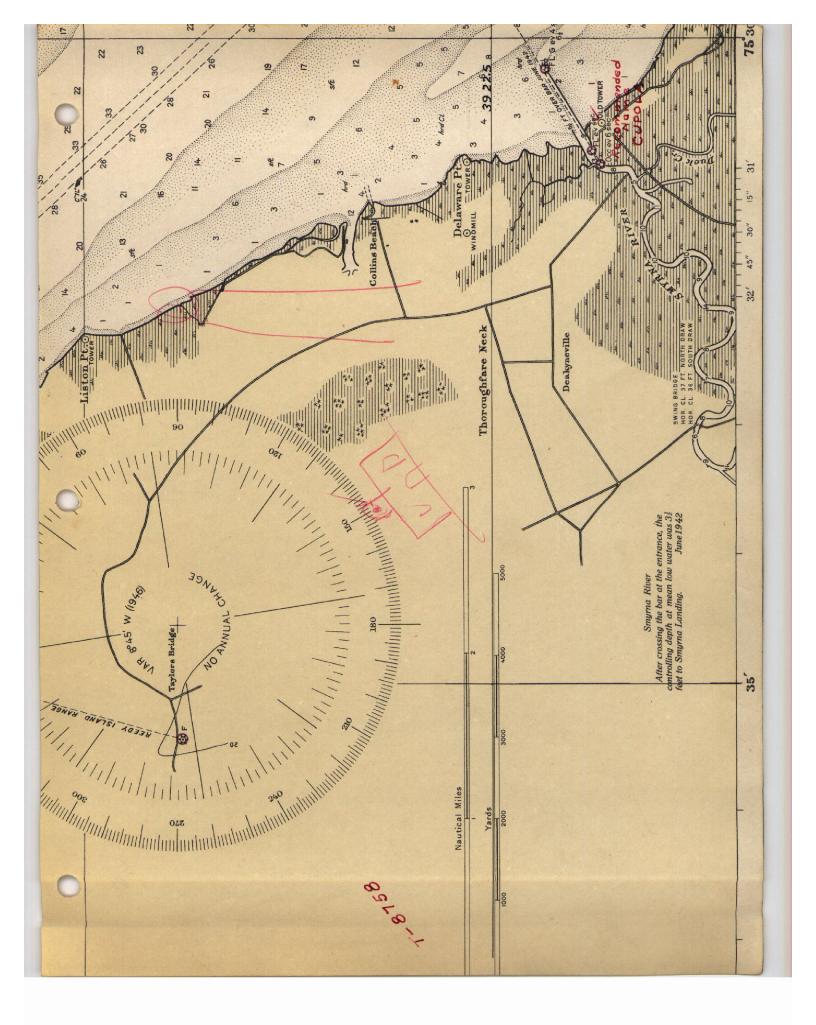
Photo. Aid

J. A. Clear, Sylvester, Engineering Aid.

Approved 20 September 1946

Edmund L. Jones,

Chief of Party



COMPILATION REPORT

MAP MANUSCRIPT, SURVEY NO. T-8758

T-8758 (Smyrna Quadrangle) is one of ten topographic maps in Project No. Ph-7(46)C located along the Delaware River and Bay. These surveys are to be compiled in accordance with instructions dated 25 March 1946 and 19 July 1946 by graphic photogrammetric methods. The contouring will be compiled from data obtained by plane-table methods. All projections filed in Division of Photogrammetry office files.

26. CONTROL:

See radial plot report for layout of control in this area. A list of the stations on Form No. M-2388-12 is included in this report.

27. RADIAL PLOT:

See report for combined radial plot covering the areas of T-8755 to T-8759 inclusive, submitted to the Washington Office, 26 February 1947.

28. DELINEATION: Attached to Desc. Report T-8755

The compilation is in accordance with the written instructions pertaining to Project Ph-7(46), dated 19 July 1946.

The contours were traced directly from the field photographs.

For shoreline details at a larger scale refer to Survey No. T-8780.

30. MEAN HIGH WATER LINE:

The mean high water line on T-8758 was traced from a reduction of map manuscript survey No. T-8780, scale 1:10,000

31. MEAN LOW WATER LINE:

All of the mean low water line on T-8758 was traced from a reduction of map manuscript survey No. T-8780, scale 1:10,000.

32. DETAILS OFFSHORE FROM THE MEAN HIGH WATER LINE:

No comment.

33. WHARVES AND SHORELINE STRUCTURES:

No comment.

34. LANDMARKS AND AIDS TO NAVIGATION:

Refer to Form 567 attached to the descriptive report for Survey

Form 567's filed in No. T-8780 for data pertaining to one landmark shown on T-8758. Division of Charts

Refer to Forms 567 attached to this report and to the field report for Quadrangle No. T-8758 for data pertaining to the three aids to navigation.

35. HYDROGRAPHIC CONTROL:

None.

36. BRIDGES:

All bridge information for the area covered by this report as listed in the U. S. Engineers "List of Bridges Over Navigable Waters in the U.S." dated July 1, 1941, was verified in the field; all clearances were carefully measured with a steel tape, and the published descriptions and clearances were found to be correct except 10. ...

not reported to the Local District Engineer:

(Letter to the local Dist. Engr. being prepared by the Review Section)

B 5/20/48 were found to be correct except for the following discrepancies, which were

Bridge at:	Field Measurements	Listed Measurements
	. Cl. left span 36.4 ft. right span 39.0 37.7 t. Cl. 2.0 5.1	36. ft 37.3 5.5
Smyrna, Northwest Branch Hor Ver	. Cl. 4 spans 80 ft. a (16.2)	two 40' spans 2.7 ft.
	. Cl. one 27.4 (t.Cl. span 2.4	4 spans) 18 - center span 3.0

Geographic names have been taken from final name standards dated 12-9-46, furnished by the Washington Office. A list of the geographic names is attached to this report. List approved by L. Heck, Geographic Names Section, Division of Charts.

38. JUNCTIONS:

A satisfactory junction has been made with Survey No. T-8759 to the east. The junction will be made with Survey No. T-8755 to the north when that survey is compiled. No contemporary surveys exist to the south or west.

DISCREPANCY OVERLAY:

Descriptive and explanatory notes concerning doubtful topographic features have been lettered on the discrepancy overlay.

40. BOUNDARIES:

, Not available. Legal boundary descriptions of the town of Smyrna and of the District Boundaries were not furnished the compilation office; however, the field inspection party identified the boundaries of Smyrna on field photographs. The District Boundaries were delineated as shown on the U.S.G.S. Smyrna - Verified by legal descriptions filed in Division of Photogrammetry General Files. quadrangle.

44. COMPARISON WITH EXISTING TOPOGRAPHIC SURVEYS:

T-8758 has been compared in detail, with the U.S. Geological Survey, Smyrna Quadrangle, scale 1:62,500 and found to be in good agreement, except the contours which are, in general, somewhat in disagreement with the U.S.G.S. Quadrangle.

45. COMPARISON WITH NAUTICAL CHARTS:

T-8758 has been compared to Nautical Charts No. 1218, scale 1:80,000, and No. 294, scale 1:40,000, and found to be in fair agreement.

The following topographic information shown on T-8758 is of sufficient importance to warrant immediate application to the chart:

None.

The following topographic details above the plane of mean high water are not shown on this manuscript, but are believed to still exist and should be carried forward on the chart:

None.

Low water features are shown in part and will be completed by the hydrographic party.

Respectfully submitted: 9 June 1947

Photogrammetric Aid

Compilation and Descriptive

Report

R. Rudolph

Photogrammetric Engineer Photogrammetric Office Review

Approved and Forwarded 11 June 1947

Officer in Charge

Baltimore Photogrammetric Office

NOTES TO OFFICE REVIEWER

T-8758 (39°15'/75°30'/7.5) Field Edit

Project PH-7 (46)

Sub-Division C

5. VERTICAL CONTROL *

The elevations for SM7, SM8, and SM9 in the vicinity of 39°19' latitude, 75°31' longitude are not known. The field notes for this series of 3rd order level BM's was not received in this office. The elevations have been added to the menuscript. They were taken from Form 45, 36. BRIDGES

Computation of 3rd Order Levels, Little Creek to Townsend, Line F-3 to F-5, Level No. 664

A tide curve has been drawn for use in determining the vertical clearances for the bridges at Flemings Landing, Smyrna Landing, and Smyrna, Northwest Branch.

40. BOUNDARIES

Boundary Monuments Nos. 87, 88, 113, 124, 150, and 152 along the boundary line of Bombay Hook Migratory Water-Fowl Refuge have been radially plotted on the survey in accordance with the field edit identification. These monuments were also identified on Map No. 13 BOM. 19A-Bombay Hook National Wildlife Refuge, Kent County, Del. by the field edit party. The boundary line was then traced from the above mentioned map by use of the vertical projector.

The descriptions and geographic positions of these monuments are being submitted on Form No. 524.

Respectfully submitted

Sladys S. Nottenburg
Gladys S. Nottenburg
Cartographer (Photo.)

* There is evidence that BM J. 14, 1946 Love not exist. This is being verfied by correspondence to the field. Lee letter of June 1948 from Condr. Lipe to the assistant chief, Div. of Photogrammetry

Field Edit Report of Map Manuscript T-8758 Project Ph-7(46) R. J. Sipe, Chief of Party

The field edit of this quadrangle was accomplished during the period 17 July to 31 July 1947 by Donald G. Flippo, Photogrammetric Aid. All work was done in accordance with the field edit instructions for project Ph-7(46), dated 24 August 1945 and supplemental field instructions.

17. Boundary: Many discrepancies were found in the field inspector's location of the Bombay Hook Wild Life Refuge.

Boundary monuments for the refuge have been identified for correction of that boundary. A detailed map furnished by the Refuge manager has been included for transferring the boundary to the manuscript. Common points were shown on both the refuge map and the photographs.

46. Methods: All delineated features such as roads, structures, drainages, and contours were checked either visually by traveling on roads or trails or by planetable method.

Delineation and some additions were made directly on the field edit sheet. Some additions and corrections were noted on the photographs with a reference to the photographs on the field edit print. A legend to the symbols and to the colored ink used during the field edit is on the field edit prints.

47. Adequacy of the Compilation: Some compiled roads and trails were deleted during the field edit. These were, however, valuable to the field editor in many instances. Several small outbuildings had been compiled but these have been deleted. Many structures were added and many wooded swamps had not been properly interpreted by the compiler and have been corrected on the field edit print.

The relative position of compiled detail was found to be intirely satisfactory. With the addition of the field edit data to the manuscript, this map will be complete and accurate.

48. Accuracy Tests: One vertical accuracy test was made in this quadrangle.

The field edit party has made no attempt to verify the horizontal accuracy of this map.

49. Review of First Proof: The following named gentleman has expressed his willingness to review the first proof.

Mr. Wilbert Rawley Leipsic, Delaware

Respectfully submitted,

Donald G. Flippo

Photogrammetric Aid 5 August 1947

·Big Oak Corners

. Bombay Hook Migratory Waterfowl Refuge

·Brenford

·Brick Store V

·Broadway Meadows

*Chambersville

·Corks Point Ditch

·Deakyneville

· Delaware River Bay

· Duck Creek -

Dupont Boulevard D.S. No. 13

·Dutch Neck Crossroads

· Eagles Nest Landing

· Flemings Landing

. Friendship Church M.E. V

. Hawkey Branch

. Kent County

· Lake Como

· Leipsic River

· Long Bridge

· Mill Creek

· New Castle County

· Raymonds Neck

· Raymonds Neck Road

• Sawmill Branch

Serversons School (approved in home Serversons Neck

· Shorts Landing

• Smyrna /

· Smyrna Landing

• Smyrna River

• Straight Ditch

· Taylors Gut V

· Tent

· Thoroughfare Neck

• Walker

· Whitehall Crossroads

A 49:

· Belmont Itell

. Odd Fellows cemetery . State Welfare Home

. Districts I and 2,3, Kent Co. V

. District 15, New Castle Co.

. State Nos. 6, 9. V

. Pennsylvania R.R.

Names preceded by . are approved. 5/17/48.

Division of Photogrammetry Review Report of Topographic Map Manuscript T-8758

Subject numbers not used in this report have been adequately covered in other parts of the descriptive report.

26. Control.--The triangulation station name Smyrna, Presbyterian Church, Spire, 1933 is incorrect as listed on the attached form M-2388-12. The correct name is Smyrna, Methodist Episcopal Church, Spire, 1933, and is so listed on a revision copy of page 62, Acc. No. G 1751, dated 10-2-47. Refer to the letter of 17 October 1946 on Triangulation attached to the radial plot report for T-8755 to T-8759, inclusive.

The elevations for benchmarks SM7, SM8, and SM9, were added to the manuscript. They were not available at the time of compilation.

36. Bridges.--The data for the bridge at Smyrna Landing was added to the listing in the descriptive report. This bridge is listed in the U. S. Engineers "List of Bridges Over Navigable Waters in the U. S."

The field edit has noted that the river above the bridge at Smyrna Landing is not navigable. The bridge data for the bridge above Smyrna Landing at Smyrna, Northwest Branch were not deleted from the descriptive report since this bridge is listed in the U.S.E. bridge list.

43. Comparison with Previous Surveys .--

T-63	1:20,000	1841
T-141	1:10,000	1841
T-1547 a&b	1:20,000	1882-3
T-3088	1:20,000	1910
T-4667	1:10.000	1931-2

These surveys are superseded by the map manuscript in all common areas.

Smyrna, Del.-N.J., U.S.G.S., 1:62,500, 1926-7

Dover, Del.-Md. N.J., U.S.G.S., 1:125,000, 1896

45. Comparison with Nautical Charts .--

Chart No. 294 1:40,000 11-17-47 Chart No. 1218 1:80,000 12-8-47

This map manuscript has not been applied to nautical charts 294 and 1218.

48. Vertical Accuracy Test. -- The vertical accuracy test for this quadrangle meets the project specification. This map complies with the national standard map accuracy requirements.

Reviewed by:

APPROVED:

Chief, Review Section Div. of Photogrammetry

Chief, Nautical Chart Branch Div. of Charts

Photogrammetry

Chief, Div. of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. <u>T-8758</u>

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10/49	294	R. Volulsk	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
	- <u> </u>		Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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M-2168-1

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.