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Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
_____, Director	
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State: <u>New York</u>	
DESCRIPTIVE REPORT	
<i>Topographic</i> <i>Hydrographic</i>	Sheet No. <u>4225</u>
LOCALITY	
<u>S. Shore of Long Island</u>	
<u>Far Rockaway to East</u>	
<u>Rockaway and Long Beach</u>	
<u>1926</u>	
CHIEF OF PARTY	
<u>C.D. Meaney</u>	

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
E. LESTER JONES, DIRECTOR

DESCRIPTIVE REPORT  
TO ACCOMPANY  
TOPOGRAPHIC SHEET NO. 1

LONG ISLAND SHORE PARTY  
.SEASON 1926

C. D. Meaney, Jr. H. & G. E., C. & G. S.  
Chief of Party

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.  
4225

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. 1

REGISTER NO. **4225**

State New York

General locality South coast of Long Island

Locality Far Rockaway to East Rockaway and Long Beach

Scale 1:10,000 Date of survey June and July, 1926

Vessel Launch #66.

Chief of Party C. D. Meaney

Surveyed by C. D. Meaney

Inked by C. D. Meaney

Heights in feet above --- to ground to tops of trees

Contour, Approximate contour, Form line interval --- feet

Instructions dated April 30, 1926, 192

Remarks: Topography in brown from aerial photographs made by  
Airmap Corporation of America in August, 1926.

Compiled and drawn by <sup>G P O</sup>J. C. MacNab.

DESCRIPTIVE REPORT  
TO ACCOMPANY  
TOPOGRAPHIC SHEET NO. 1

LOCALITY AND LIMITS

The topography on this sheet is on the south coast of Long Island between latitude  $40^{\circ} 35' N$  and latitude  $40^{\circ} 38' 7'' N$  and longitude  $73^{\circ} 39' W$  and longitude  $73^{\circ} 46' W$ .

CONTROL

The topography was controlled by the following triangulation stations: Edgemere Hotel and Far Rockaway Schoolhouse, 1903 - 1908, Report of the Triangulation of Greater New York and by Flag Tower East Rockaway Inlet Coast Guard, Beach Windmill, West End School, Fire Engine-house Tower, Nassau, City Hall Long Beach, Long Beach Standpipe, Hicks, Bell, Swamp, Woodmere High School, Gray, Red, Franklin Hotel tank, and Hard 1926 triangulation C. D. M.

SURVEY METHODS

The following traverses were run: Flag Tower East Rockaway Inlet Coast Guard to Edgemere Hotel (no closing error), Flag Tower East Rockaway Inlet Coast Guard to Long Beach Standpipe (14 meter closure in azimuth), three point fix at Bay Park foot bridge to three point fix at Oceanside through East Rockaway (closure 7 meters in azimuth), Hard to Long Beach Standpipe (no closing error), and from a three point fix at the mouth of Bannesshee Creek to the head of Bannesshee Bay. The remainder of the topography was controlled by three point fixes. Flag Tower East Rockaway Inlet Coast Guard, Beach Windmill, Fire Enginehouse Tower, City Hall Long Beach, and Long Beach Standpipe were checked by topographic cuts from three point fixes during the progress of the work.

Several 2 x 4's marked by three tacks in the form of a triangle supplemented by easily distinguished windmills, cupolas, flagstaffs, signs, trees and houses were located for the control of future hydrography.

GENERAL DESCRIPTION

The outside shore line which borders the Atlantic Ocean is a gently sloping sand beach used extensively for bathing. Belated efforts are being made to protect the beach from the inroads of the sea by driving rows of piles at right angles to the beach shore. Where these piles have been driven, it was noted that the sand on the east side of the piles was sometimes as much as three feet higher than the sand west of the piles. The entire beach is subject to the wearing and building up effects of the currents along the beach generated by the ocean swells. The Brighton Hotel located on the Long Beach ocean

front at about longitude  $73^{\circ} 39'12''$  West was undermined by the action of the sea during the summer and fall of 1926. The picture below shows the Brighton Hotel in November 1926 after the south side of the building collapsed.



Brighton Hotel  
Long Beach Nov. 1926

A boardwalk built on concrete piles and covered with cement, fronts the ocean at Long Beach between longitude  $73^{\circ} 41'12''$  West and longitude  $73^{\circ} 38'18''$  West; an iron railing extends along the walk on the ocean side. During the summer the walk is lighted by electric lights visible from seaward.

The north shore of the sand spit extending from East Rockaway Inlet to the eastern end of the sheet is mostly reclaimed and built up land with a short section of marsh north of Beach Windmill. West of longitude  $73^{\circ} 42' W$  a dredge was filling with the idea of developing Long Beach westward. A development is in progress at Atlantic Beach near East Rockaway Inlet. From a comparison with previous maps East Rockaway Inlet appears to be moving steadily westward. Along the north

shore of Long Beach private bulkheads protect the adjoining property between longitude  $73^{\circ} 41:2$  W and  $73^{\circ} 41:7$  W. A continuous wooden bulkhead extends eastward from longitude  $73^{\circ} 41:2$  W to the eastern end of the sheet. This bulkhead is showing wear with the result that the adjoining shoreline is falling away at several places.

The shoreline from Edgemere Hotel to the mouth of Bannashee Creek is a sand beach protected by piles and breakwaters built at right angles to the shoreline. The beach is used extensively for bathing.

From Bannashee Creek eastward to broad channel the marshy shoreline is cut by several creeks. North of the marshy shoreline are several sand dunes and low sandy stretches. The sandy stretches are known as Hick's Beach.

The remaining fast shoreline on this sheet is located between Woodmere Channel and Bay Park, at the north end of East Rockaway Channel, at Oceanside fronting East Rockaway channel and at Island Park. This shoreline has been built up by dredging adjacent channels and islands. At Island Park an extensive development is in progress. The island northeast of Simmons Hassock was still to be filled in November 1926.

The shoreline not mentioned in the above description is marshy in character, cut up by numerous creeks and channels. The marshy area is further cut up by an extensive system of drainage ditches which are about eight inches wide and two feet deep. Most of the creeks have mud bottom. A person attempting to walk these creeks sinks from one foot to four feet. Beneath this mud is sand as revealed by dredging. An island named Hassock or Marsh is partially covered at high water while an island marked Sedge or Meadow is above mean high water. The natives state that when the highest tides of the year are accompanied by south-east gales, the water covers all the marshes.

#### NEW NAMES

The names Atlantic Beach, Island Park, Hewlett Point, Bay Park and Reynolds Channel are well established names which are not shown on the present chart. The remaining names have been taken from chart 1215, from previous topographic sheets, and from blueprints made by the town of Hempstead. The most of the marsh land is owned by the town of Hempstead.

#### COMMUNICATION

The settlements and developments on this sheet are accessible by either land or water. Numerous channels also make the marshes accessible by water. The Long Island railroad supplemented by numerous bus lines, affords excellent communication to all the settlements.

Good roads supplemented by two bridges spanning Reynolds Channel afford excellent communication by automobile.

East Rockaway Inlet with a depth of 4-1/2 feet and marked by three black and white can buoys is the principal entrance from the sea to the southeast part of Far Rockaway, to Atlantic Beach, Lawrence, Long Beach, Woodmere, Hewlett, Hewlett Point, Bay Park, Oceanside, East Rockaway, Island Park and Lido Beach.

From the northwest point of Atlantic Beach, Reynolds Channel extends from East Rockaway Inlet eastward to Long Beach with a least depth of six feet. The channel borders Far Rockaway, Atlantic Beach, Lawrence, Long Beach, Island Park and Lido Beach.

Broad Channel with a least depth of five feet branches north from Reynolds Channel at Hick's Beach. Woodsburg Channel branches out of Broad Channel on the south side of South Green Sedge and has a depth of 4-1/2 feet to Woodmere on Woodmere Channel. Nums Creek branches out of Broad Channel northwest of Cedar Island. It has a depth of four and a half feet to the north side of Hewlett's Bay where it has two branches, one of which is Macy Channel which gives access to Hewlett and Hewlett Point. Macy Channel has been dredged to over 9 feet. The other channel which branches out of Nums Creek runs along the north coast of Hewlett Bay with a depth of 6 feet at low water to Bay Park where a dredged canal bulkheaded on both sides and the inshore end extends a half mile inland with a depth of about six feet at low water. A foot bridge near the south end of the canal has a clearance of 12 feet at high water.

East Rockaway Channel, another branch of Broad Channel, has a depth of 4-1/2 feet at low water. Boats of this depth have access to Oceanside and East Rockaway through this channel.

Hog Island Channel with a depth of 3 feet at low water branches out of Reynolds Channel near the southeast point of South Black Banks and affords access to the north shore of Island Park.

All these channels are marked during the summer with red and black barrels or stakes.

Reynolds Channel is crossed by three drawbridges. The western of these three bridges is a concrete highway bridge connecting the mainland of Long Island at Far Rockaway with Atlantic Beach. The bridge was begun in the late summer of 1926. In November 1926, it was nearing completion. This bridge was located by a three point sextant fix on the north side and a direction. A draw was to be placed in the center of the channel and to be lighted at night.

The Long Beach Branch of the Long Island Railroad has a railroad drawbridge crossing from Island Park to Long Beach. The draw near the Island Park side is 41 feet wide and has no clearance at high water when closed. The draw is lighted by red lights at night.

The third bridge is a concrete highway bascule bridge with an opening of one hundred feet and a clearance of seven and one-half feet at high water when closed. The bridge is marked at night by a red light on each of the center piers and by two red lights at the center of the opening. The center piers on the east side extend about ten feet above the main structure of the bridge.

The Long Island Railroad crosses a small creek at East Rockaway. A lift bridge over this creek allows boats of as much as four foot draft a clearance of approximately ten feet at high water. The railroad over Hog Island channel blocks this waterway except for pulling boats.

During the progress of the survey, the Long Island Railroad was a single track road with a few switches. In November 1926, except for the crossing between Island Park and Long Beach, double tracks had been laid.

#### RESOURCES

All the cities and towns within the area surveyed are summer resorts. Far Rockaway, Atlantic Beach, Long Beach, and Lido Beach claim the ocean shore as their chief asset. The population of the cities and towns varies with the temperature. Fishing is the chief industry. This section of Long Island is becoming a residential section for New York City. Developments are in progress while the marshes afford opportunities for future developments.

#### Miscellaneous

The roads shown in broken lines near Bannesshee Creek and at Island Park were transferred from airplane photographs. The remaining roads were located during the progress of the survey.

A list of planetable positions available for future hydrography and a list of landmarks for charts is a part of this report.

*3 sheets to Mr. Storm (Letter 75-1927)*

Blueprints of streets in Far Rockaway, Bay Park, East Rockaway, Oceanside, Island Park, and Long Beach are in a separate package.

*11 prints to Mr. Storm*

Respectfully submitted,

*C. D. Meaney*

C. D. Meaney,  
Jr. H. & G. Engineer,  
U. S. Coast and Geodetic Survey.

*See letter 75-1927 for prominent objects*



IN REPLY ADDRESS THE DIRECTOR  
U. S. COAST AND GEODETIC SURVEY  
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 25, 1927.

REVIEW OF TOPOGRAPHIC SHEET NO. 4225

SOUTH SHORE OF LONG ISLAND, NEW YORK

FAR ROCKAWAY TO EAST ROCKAWAY AND LONG BEACH

Chief of Party, C. D. Meaney.

During the topographic field work of this sheet it was found that an Aerial Mapping Corporation had made a survey of this locality, and this office decided to purchase these photographs to add to, and supplement the topography done in the field

The system used to apply the photographs to this sheet was similar to that used in the Mississippi River Delta survey and described in Special Publication No. 105, except that as there was much more control in the locality covered by this new work and as the altitude was not as constant, fewer pictures were used to the mosaic. Another change was necessary as the scale of the Mississippi River Delta photographs and that of the smooth sheets necessitated a scale reduction of the mosaics by more than  $\frac{1}{8}$ , while in the present survey the photographs were almost the same scale as the smooth sheets.

In this work the mosaics were constructed after a careful investigation of the individual photographs to determine distortion, tilt and scale and the photographs which contained too much error were eliminated. Then the mosaics were constructed and photographed to the ~~same~~ scale of the smooth sheet. These later pictures of the mosaics were printed upon a high grade of bromide paper and the triangulation and control marked thereon in red ink. The desired topography was then traced from the bromide print by means of a light table. The light showing up through the print and tracing allowed this work to be accomplished accurately in ink on the tracing paper.

These tracings were compiled directly on the smooth sheet.

This smooth sheet makes a most interesting comparison between the field topography and the aerial topography.

Comparison

Time and Financial Comparison

The field work consisted of the triangulation control and plane table topography. Six men worked six weeks with the aid of a launch to produce the 22 square miles of black line topography and control of this sheet. The cost was approximately \$1700.00 or \$77.27 per square statute mile.

The aerial work already described occupied the time of one cartographic draftsman for six weeks at a cost of \$300.00 to produce 35 square statute miles of topography shown in brown on the sheet. The area was covered by 85 aerial photographs costing \$29.75 and negatives and prints of 15 mosaics at a cost of \$24.25.

\$300.00	salary
29.75	photographs
<u>24.25</u>	bromides
\$354.00	total cost
10.11	cost per square statute mile

There are several advantages other than cost to be derived from the use of aerial photographs, in connection with the field work; a few of which will be described below.

1. The Coast and Geodetic Survey has for many years checked the plotting of hydrography and in many instances found it necessary to give directions for a partial resurvey or in other cases to ask for a portion of the work to be further investigated because of points arising during the office investigation. This kind of investigation it has never been possible to apply to topography in the office, and only the grossest of errors can possibly be discovered. Using aerial photography a complete and accurate test can be given to the most detailed topography.
2. During the compiling of the charts in the office many sources are necessary to develop a completed chart. Sometimes cartographers must pantograph large numbers of blue prints without projections to develop their chart. Sanborn maps are used extensively for coastal town and city development. If our office and field force could produce complete topographic sheets

covering the charted area the application of these blue prints, Sanborn maps, etc. could be eliminated and the cost of production cut down. This sheet T 4225 gives this result. Thirteen blue prints and real estate maps were turned in to aid in compiling the chart in this area. The aerial work on T 4225 eliminates the use of this outside information, the accuracy of which is always questionable.

3. The ability to obtain by the aerial survey method accurate and complete coast line surveys including all aids to navigation, would eliminate entirely the Coast and Geodetic Survey's dependence upon the U. S. Geological Survey.

Remarks.

There are two areas on sheet T 4225 which have not been photographed sufficiently by the aerial prints. One is a small strip on the eastern side of the sheet at about  $40^{\circ} 37'.8$  latitude and from  $73^{\circ} 38'.5$  to  $73^{\circ} 39'.25$  longitude.

The other is a small space covered by photographs but not distinct enough to use. This is on the ~~eastern~~<sup>western</sup> edge of the sheet at about  $40^{\circ} 37'.8$  latitude and  $73^{\circ} 45'.6$  longitude.

The character of the field work on this sheet is highly commendable when compared with the aerial work.

*John C Mac Nab.*

Notes:

1. The aerial work on this sheet was reviewed by the field officer, Meany, in the office during its application to the sheet.

2. The aerial work in the northeastern portion of the sheet was controlled by using several points on old Coast and Geodetic Surveys. The triangulation points have been plotted and checked but several planetable stations used have not been shown.

*J. C. M.*

T 4225

## PLANETABLE POSITIONS

Signal :	Latitude :		Longitude :		Description	
: 0 ' Meters :	0 ' Meters :	0 ' Meters :	0 ' Meters :	0 ' Meters :		
Tip	40	35	1373	73	45	817 Cupola
Let	40	35	1368	73	45	345 Cupola
Flag	40	35	1136	73	45	317 Flagpole
Sky	40	35	1238	73	44	1276 Skylight hotel ✓
Cup	40	35	1328	73	44	853 Cupola
Staff	40	35	1307	73	44	722 Flagpole
Cor	40	35	1287	73	44	339 Flagpole
Bar	40	35	769	73	44	652 Topographic signal
Pole	40	35	1374	73	43	1405 Small flagstaff west end house
Edge	40	36	998	73	43	1393 Windmill ✓
Chime	40	36	948	73	43	862 Chimney golf club
Ho	40	36	847	73	43	886 Green house center
Sig	40	36	446	73	43	1198 Signal
Leb	40	36	94	73	44	42 Signal
Win	40	35	1788	73	43	1079 Windmill (center)
Mill	40	35	1594	73	43	908 Windmill (center)
White	40	35	1355	73	43	689 Cupola white house
Red	40	35	1286	73	43	541 Cupola red house
Steel	40	35	1227	73	43	261 Steel frame windmill
Gal	40	35	1156	73	43	175 Flagpole
Brick	40	35	565	73	43	1355 Brick chimney
Rock	40	35	516	73	43	787 Lookout, East Rockaway Inlet
Blaze	40	35	252	73	43	217 Flagpole with triangular blaze
End	40	35	216	73	42	1299 Flagpole end of board walk
Stac	40	35	186	73	42	791 Stack Western house beach
Ba	40	35	56	73	41	215 Triangular blaze boardwalk
Hi	40	35	1191	73	42	1374 Signal
Nut	40	35	1630	73	43	260 Signal
Efn	40	36	13	73	43	464
Top	40	36	140	73	43	366 White tank green top
Tie	40	36	383	73	43	187 White chimney one showing most of chimney
Gray	40	36	536	73	43	209 Gray windmill (center) ✓
Yellow	40	36	1556	73	43	52 Yellow windmill ✓
Kel	40	36	1027	73	42	953 Signal
Roof	40	36	1386	73	42	854 Center red roofed house
Sign	40	36	1530	73	42	487 No trespassing sign
Chim	40	37	173	73	42	820 Chimney
Pot	40	37	261	73	42	633 Signal
Gab	40	37	496	73	42	679 Eave of house facing south
At	40	37	438	73	42	816 Signal
Dune	40	35	1075	73	42	656 Signal
It	40	35	964	73	42	231 Signal
Our	40	35	1048	73	41	1232 Signal
Rit	40	35	1057	73	41	652 West gable facing south
Smo	40	35	1086	73	41	524 Smokestack
Ga	40	35	1089	73	41	421 Gable facing south
Pi	40	35	1169	73	41	319 Pipe on green house
Up	40	36	132	73	41	283 Center of house
Tac	40	36	558	73	41	1377 Stack on house

Signal :	Latitude :		Longitude :		Description	
: 0	:	Meters :	0	:	Meters :	
So	40	36	1322	73	41	1202 Center of house
Gilt	40	36	1728	73	41	1060 Gilt ballon flagpole
Nel	40	37	403	73	41	1056 Chimney of house
Sir	40	37	468	73	41	1027 Center of green house
Topo	40	37	606	73	41	693 Topograph mark
Post	40	37	820	73	41	407 Largest of four posts
Set	40	37	875	73	41	695 2 x 3 post
Now	40	37	943	73	41	468 Signal
Al	40	37	1278	73	41	572 Signal
La	40	37	1804	73	41	913 Low eave facing east
De	40	38	02	73	41	877 Drain pipe Macy Channel
Ran	40	38	242	73	41	801 S.E. corner veranda
Thin	40	37	1727	73	41	286 Thin chimney
Sil	40	37	1616	73	41	85 Signal
Sit	40	37	1230	73	40	1182 Signal
Pat	40	37	1307	73	40	271 Flagpole
School	40	38	566	73	39	1308 Chimney East Rockaway School
Can	40	38	686	73	39	855 Chimney White Cannon Inn
Rat	40	38	532	73	39	739 Signal
For	40	38	430	73	39	827 Flagpole
Ser	40	38	347	73	39	866 Sign
Nal	40	38	332	73	39	914 Signal
Val	40	38	201	73	39	947 Eave facing South Valvoline Oil Co.
Fle	40	38	58	73	39	890 Flagpole
Sen	40	38	325	73	39	633 Smokestack
Am	40	38	335	73	39	565 West of three flagpoles
Graph	40	38	349	73	39	474 Topographic signal concrete post
Point	40	38	141	73	39	659 Center top of small house
North	40	37	1715	73	39	520 Center of north of four houses
Pip	40	37	1058	73	39	920 Pipe projecting four feet above ground
Hat	40	37	401	73	40	332 Chimney
Me	40	37	439	73	40	229 Chimney
Rite	40	37	273	73	40	1043 West of two poles
Up	40	37	294	73	40	876 Smokestack
Lon	40	36	1777	73	39	1302 Chimney
Isle	40	37	43	73	39	842 Signal tripod
Big	40	36	798	73	39	553 Biggest tree Island Park
Small	40	36	761	73	39	515 Small tree Island Park
Center	40	36	828	73	41	715 Center house
Pan	40	36	1045	73	40	546 Gable facing west
Pin	40	36	995	73	40	551 Gable facing west
Com	40	36	362	73	40	948 Chimney
Cat	40	36	319	73	40	472 Center top house
Til	40	35	1666	73	40	83 Smoke stack
Bla	40	36	1461	73	39	354 Signal
Bor	40	36	1221	73	39	147 Sign board
Hed	40	36	14	73	38	980 Chimney north of two houses
But	40	35	1372	73	39	609 North pier

T 4225

Signal :	Latitude :			Longitude :			Description
:	°	'	Meters :	°	'	Meters :	
Ment	40	35	1337	73	39	607	South pier
Brac	40	35	1233	73	39	448	Brooklyn Rowing Club eave facing north
Hos	40	35	1258	73	39	77	Chimney hospital
Tex	40	37	970	73	38	535	Texaco sign east of Long Beachroad
Eve	40	37	1496	73	41	860	East eave facing south
Cent	40	36	1111	73	40	527	Center of house
Good	40	37	116	73	42	401	Center of windmill