U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey: Topographic
Field No.: 11 Office No.: 5644

LOCALITY
State: New Jersey
General locality: Atlantic Coast
Locality: Stratmere 20
Sea Isle City
1946

CHIEF OF PARTY
E. H. Kirsch

LIBRARY & ARCHIVES
DATE: ______________________
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

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. 11

REGISTER NO. 5644 T5614

State...NEW JERSEY

General locality...OUTSIDE COAST...CAPE MAY COUNTY

Locality...STRATHMORE TO SEA ISLE CITY Photos 4-18-32

Scale...1:10,000 Date of survey Compilation July., 1936

Vessel...AIR PHOTO PARTY NO. 24

Chief of party...E. H. Kirsh

Surveyed by...See data sheet in descriptive report

Inked by...W. W. King

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

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

Instructions dated...May 16th, 1935

Remarks: None Compiled on scale of 1:10,000

...
PHOTOS NO.          Along Long.          Date
66-55-24 to 25    74° 39'    8-1-32
66-8-48 to 53     74° 44'    4-18-32
66-8-24 to 30     74° 44'    4-18-32
66-8-3 to 5       74° 46'    4-18-32
M 172.7 + 18' (871 - 19)  74° 40'  12:30 P.M. 1-23-33

Projection By       L. C. Ripley 5-1-35
Projection Checked By  T. B. Nutting 5-1-35
Control Plotted By   E. J. Anderson 1935
Control Checked By   P. W. Hund 1935
Control Plotted on Photos By  F. H. Richardson 1935
Control Checked on Photos By  E. H. Kirsch June 1936
Smooth Radial Plot By E. H. Kirsch June 1936
Smooth Radial Plot Checked By W. W. King July 1936
Detailed By         W. W. King July 1936

The above men have all been discharged.

STATISTICS:

LAND AREA  24 Square statute Miles
Coast Line  5 Statute Miles
Shoreline  7 Statute Miles (More than 200 meters wide)
Shoreline  31 Statute Miles (Less than 200 meters wide)

Ref. sta.  Ocean 1932 39° 10' 50.471 (1556.4 m)
Datum N.A. 1927  74° 44' 21.856 (524.6 m)  (Adjusted)

N.J. Grid Coord. x = 1977, 380.10 ft
y = 126, 516.83 ft.
GENERAL INFORMATION

Statisticks:

This compilation covers 24 square Miles (statute) of land area, 5 statute miles of Coast line, 7 statute miles of shoreline over 200 meters wide, and 31 statute miles of shoreline less than 200 meters wide. Datum N.A. 1927. Reference Station: Ocean Stream. 

Latitude: 39° 10' 56.471" (55.474 meters) 

Longitude: 74° 44' 21.356" (54.6 meters)

The area covered by this sheet is of the low coastal Swamp type with very little relief. Along the coast lies a narrow strip of low sandy area which is generally subdivided into streets and comprises Stratthmore and Sea Isle City. Back of this narrow strip of land is a low marshy area interspersed with streams, bays, and the intracoastal waterway. Most of the marsh is drained by small ditches dug by the mosquito and pest control. Just back and parallel to the high ground runs N. J. State highway No. 4 on both sides of which are numerous cultivated areas and farm houses. The vegetation is generally deciduous and in some places appears to be a second growth. The two railroads that run approximately at right angles to the coast line have been abandoned and the tracks taken up. For these the usual railroad symbol has been used and dashed to show abandonment.

PHOTOGRAPHS:

There are portions of four overlapping flights for this compilation, all of which run generally north and south. The exact time the photos were taken is not available.

<table>
<thead>
<tr>
<th>Photo Nos.</th>
<th>Along Long.</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>66-55-24 to 25</td>
<td>74° 39'</td>
<td>8-1-32</td>
</tr>
<tr>
<td>66-8-48 to 35</td>
<td>74° 11'</td>
<td>4-18-32</td>
</tr>
<tr>
<td>66-8-24 to 30</td>
<td>74° 14'</td>
<td>4-18-32</td>
</tr>
<tr>
<td>66-8-3 to 5</td>
<td>74° 45'</td>
<td>4-18-32</td>
</tr>
</tbody>
</table>

CONTROL

Sources:

Triangulation stations were established by Lieut. C. D. Meaney in 1932, and Lieut. J. A. Bond in 1936. The traverse stations were set by the N. J. Geo. Control Survey. They have been radial plotted and reported on form 524. All control is on N. A. 1927 datum.

ERRORS:

No errors in the control were found.

DISCREPANCIES:

The traverse by the N. J. Geo. Control Survey is the only control established by other organizations, and no discrepancies were found.
COMPILATION

METHOD:
The usual radial line method as described in "Notes on the compilation of planimetric line maps from 5 lens aerial photographs" was used in compiling this sheet.

ADJUSTMENTS OF THE PLOT:
No unusual adjustments of the plot were found necessary.

INTERPRETATION:
All the photos used in this compilation are fairly true to scale and the detail is generally clear. However, some of the shoreline of the small streams was a little indistinct looking through the celluloid. This difficulty was overcome by tracing this detail on the photos before detailing on the celluloid.

INFORMATION FROM OTHER SOURCES:

by field inspection by the compiler on Aug. 3rd, 1936. This was done by taping the distances at intervals along the coast from points visible on the ground and the photos, to the high water line. It will be seen that considerable erosion has taken place, especially in the vicinity of Strathmere.

All names on the overlay sheet are taken from U. S. C. & G. Survey chart No. 1217, State of N. J. Dept. of Conservation and development map No. 57, and highway maps.

CONFLICTING NAMES:

"Upper Thoro" on U. S. C. & G. Survey Chart No. 1217 is called "MAIN CHANNEL" on the State of N. J. Dept. of Conservation and development map No. 57. Beach Thoro on U. S. C. & G. Survey chart No. 1217 is called "WHITE CREEK" on State of N. J. Dept. of conservation and development map No. 57. Names on the overlay sheet are shown according to the N. J. map. Geological quadrangle SEA ISLE also uses the names "MAIN CHANNEL" and "WHITE CREEK".

* Filed in Geog. Names.

COMPARISON WITH OTHER SURVEYS:

JUNCTIONS:
Satisfactory junctions have been made with the following sheets: Field Nos. 9 & 10 Reg. 5642 & 5643 on the north, and sheet 12, reg. 5645 on the south.
Note

The values of 9.3 ft differ from the

1935 list of bridges which
gives M.H.W. 9.5 ft. Mean range of T.B. = 5.3 ft.

at M.H.W. The value of 9.3 ft is accepted

in view of the discussion on page 17 of

Report T.5286, which states that

the numerous conflicting values given

in H.B.C. Bridge Board and H.B. Board

of Navigation have been checked

and corrected by field measurements.
**LANDMARKS:**

A list of recoverable topographic stations are submitted herewith. A list of landmarks for charts will be submitted as a separate report at the close of the season, for the project. This list of landmarks has been submitted and is filed as chart letter 751-1936.

**BRIDGES:**

The following data was obtained from field inspection:

<table>
<thead>
<tr>
<th>LOCALITY</th>
<th>LAT.</th>
<th>LONG.</th>
<th>TYPE</th>
<th>VERT. CLEAR</th>
<th>HOR CLEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corson Inlet Railroad</td>
<td>39° 12'</td>
<td>74° 39'</td>
<td>End swing</td>
<td>2.0 feet</td>
<td>31.0 feet</td>
</tr>
<tr>
<td>Strathmere Highway</td>
<td>39° 12'</td>
<td>74° 39'</td>
<td>Swing</td>
<td>*9.3 feet</td>
<td>31.8 feet</td>
</tr>
<tr>
<td>Sea Isle City Highway</td>
<td>39° 09'</td>
<td>74° 42'</td>
<td>2 leaf</td>
<td>8.2 feet</td>
<td>50 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bascule</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vertical clearance listed is at M. H. W. with the bridge closed.

**RECOMMENDATION FOR FURTHER SURVEYS:**

This compilation is believed to have a probable error of not more than ±4 MM in position of well defined detail of importance for charting, and not more than ±7 MM for other data.

To the best of my knowledge this sheet is complete in all detail of importance for charting, within the accuracy stated above, and no additional surveys are necessary.

Assisted by E. H. Kirsch Lt. (j.g.)

Submitted by
W. W. King
<table>
<thead>
<tr>
<th>Remarks</th>
<th>Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td><strong>Whale Creek</strong> (See G12601)</td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td><strong>Corson’s Inlet</strong> on Prog. Mil. Map only. <em>Corson’s Inlet</em> name of another settlement so. of Strathmore on Local Map.</td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Location off sheet</td>
</tr>
<tr>
<td>24</td>
<td><strong>Shown only on Prog. Mil. Map as Greenfield</strong></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Name on Survey</td>
<td>A</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Cedar Swamp Creek</td>
<td></td>
</tr>
<tr>
<td>Seaville</td>
<td></td>
</tr>
<tr>
<td>Corson Sound</td>
<td></td>
</tr>
<tr>
<td>Middle Thorofare</td>
<td></td>
</tr>
<tr>
<td>Ben Hand Thorough</td>
<td></td>
</tr>
<tr>
<td>Main Channel</td>
<td></td>
</tr>
<tr>
<td>Sea Isle Junction</td>
<td></td>
</tr>
<tr>
<td>Flat Creek</td>
<td></td>
</tr>
<tr>
<td>Burroughs Hole</td>
<td></td>
</tr>
<tr>
<td>White Creek</td>
<td></td>
</tr>
<tr>
<td>Whale Beach</td>
<td></td>
</tr>
<tr>
<td>Strathmere</td>
<td></td>
</tr>
<tr>
<td>Atlantic Ocean</td>
<td></td>
</tr>
<tr>
<td>Ocean View</td>
<td></td>
</tr>
<tr>
<td>Ludlam Bay</td>
<td></td>
</tr>
<tr>
<td>Ludlam Beach</td>
<td></td>
</tr>
<tr>
<td>Ludlam Thorofare</td>
<td></td>
</tr>
<tr>
<td>Sea Isle City</td>
<td></td>
</tr>
<tr>
<td>Great Cedar Swamp</td>
<td></td>
</tr>
<tr>
<td>Fernosa Creek</td>
<td></td>
</tr>
<tr>
<td>Swimming Creek</td>
<td></td>
</tr>
<tr>
<td>Greenfield</td>
<td></td>
</tr>
</tbody>
</table>

Names underlined in red approved by [Signature] on 12/8/66
PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by R. E. Ask

Positions checked by R. E. Ask

Grid inked on machine by R. E. Ask

Intersections inked by

Points used for plotting grid:

\[
\begin{align*}
& x \ 1,975,000 \\
& y \ 145,000 \\
& x \ 1,975,000 \\
& y \ 130,000 \\
& x \ 1,990,000 \\
& y \ 130,000 \\
& x \ 2,000,000 \\
& y \ 130,000
\end{align*}
\]

Triangulation stations used for checking grid:

1. Ocean 1932 (ref. st.)
2. Strathmers 1932
3. Whale 1932
4. S.P. Sea Is/ct 1932
5. Seal Is/e 1932
6. 
7. 
8. 

-1944
<table>
<thead>
<tr>
<th>STATE</th>
<th>N. J.</th>
<th>STATION.</th>
</tr>
</thead>
<tbody>
<tr>
<td>z</td>
<td>1,975,000.00</td>
<td>log S_y</td>
</tr>
<tr>
<td>K</td>
<td>2,000,000.00</td>
<td>log (1200/3397)</td>
</tr>
<tr>
<td>z' (=z-K)</td>
<td>-25000000</td>
<td>log (1/R)</td>
</tr>
<tr>
<td>(z'/0(9\rho_s)^2)</td>
<td>-0.01</td>
<td>log S_n</td>
</tr>
<tr>
<td>S_y</td>
<td>-24,999.99</td>
<td>cor. arc to sine</td>
</tr>
<tr>
<td>3 log z'</td>
<td>13.19352003</td>
<td>log S_y</td>
</tr>
<tr>
<td>log 1/(0\rho_s)^2</td>
<td>4.5810213</td>
<td>log A</td>
</tr>
<tr>
<td>log (z'/0(9\rho_s)^2)</td>
<td>7.7748413</td>
<td>log (\Delta \lambda_1)</td>
</tr>
<tr>
<td>(\log S_n^2)</td>
<td>7.76393306</td>
<td>(\log \Delta \lambda_1)</td>
</tr>
<tr>
<td>(\log C)</td>
<td>3.16544</td>
<td>cor. sine to arc</td>
</tr>
<tr>
<td>(\log \Delta \phi)</td>
<td>9.060477</td>
<td>(\Delta \lambda)</td>
</tr>
<tr>
<td>(y)</td>
<td>145,000.00</td>
<td>(\lambda) (central mer.)</td>
</tr>
<tr>
<td>(\phi') (by interpolation)</td>
<td>39.13 53.2428</td>
<td>74.40 60.0000</td>
</tr>
<tr>
<td>(\Delta \phi)</td>
<td>-1204</td>
<td>(\Delta \lambda)</td>
</tr>
<tr>
<td>(\phi)</td>
<td>39.13 53.1224</td>
<td>(\lambda)</td>
</tr>
</tbody>
</table>

Explanation of form:

\(z' = z - K\)

\(S_y = z - \frac{z'^2}{(0\rho_s)^2}\)

\(S_n = \frac{1}{R} \left(\frac{1200}{3397}\right) S_y\)

\(R = \text{scale reduction factor}\)

\(\phi'\) is interpolated from table of \(y\)

\(\Delta \phi = C S_n^2\)

\(\phi = \phi' - \Delta \phi\)

\(\Delta \lambda = S_y A \sec \phi\)

\(\log S_y = \log S_n - \text{cor. arc to sine}\)

\(\log \Delta \lambda = \log \Delta \lambda_1 + \text{cor. arc to sine}\)

\(\lambda = \lambda\) (central mer.) \(\pm \Delta \lambda\)
GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

<table>
<thead>
<tr>
<th>State</th>
<th>N. J.</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>( z = z' - K )</td>
<td>( 1.75 \times 10^{-3} )</td>
<td>( 4.397.939.84 )</td>
</tr>
<tr>
<td>( K )</td>
<td>( 2.00 )</td>
<td>( \log (1200/3937) )</td>
</tr>
<tr>
<td>( z' = z' - K )</td>
<td>( -2.5 \times 10^{-3} )</td>
<td>( \log (1/R) )</td>
</tr>
<tr>
<td>( z''/(6p_z^2) )</td>
<td>( -0.1 )</td>
<td>( \log S_m )</td>
</tr>
<tr>
<td>( S_t )</td>
<td>( 24.999.99 )</td>
<td>cor. arc to sine</td>
</tr>
<tr>
<td>( 3 \log z'' )</td>
<td>( 13.193.420.03 )</td>
<td>( \log S_A )</td>
</tr>
<tr>
<td>( \log (1/(6p_z^2)) )</td>
<td>( 4.581.021.2 )</td>
<td>( \log \sec \phi )</td>
</tr>
<tr>
<td>( \log z''/(6p_z^2) )</td>
<td>( 7.774.841.3 )</td>
<td>( \log \Delta \lambda )</td>
</tr>
<tr>
<td>( \log S_m^2 )</td>
<td>( 7.768.832.06 )</td>
<td>cor. sine to arc</td>
</tr>
<tr>
<td>( \log C )</td>
<td>( 1.316.444 )</td>
<td>( \log \Delta \lambda )</td>
</tr>
<tr>
<td>( \log \Delta \phi )</td>
<td>( 9.056.177 )</td>
<td>( \Delta \lambda )</td>
</tr>
<tr>
<td>( y )</td>
<td>( 130.000.00 )</td>
<td>( \lambda ) (central mer.)</td>
</tr>
<tr>
<td>( \phi' ) (by interpolation)</td>
<td>( 11' 24.8385 )</td>
<td>( \Delta \lambda )</td>
</tr>
<tr>
<td>( \Delta \phi )</td>
<td>( -120.67 )</td>
<td>( \lambda )</td>
</tr>
</tbody>
</table>
| \( \phi \) | \( 11' 24.8607 \) | \( 
\text{Explanation of form:} \\
\( z' = z - K \) \\
\( S_t = z' - \frac{z''}{(6p_z^2)} \) \\
\( S_m = \frac{1}{R} \left( \frac{1200}{3937} \right) S_t \) \\
\( R = \text{scale reduction factor} \) \\
\( \phi' \) is interpolated from table of \( y \) \\
\( \Delta \phi = C \ S_m^2 \) \\
\( \phi = \phi' - \Delta \phi \) \\
\( \Delta \lambda = S_A \sec \phi \) \\
\( \log S_t = \log S_m - \text{cor. arc to sine} \) \\
\( \log \Delta \lambda = \log \Delta \lambda + \text{cor. arc to sine} \) \\
\( \lambda = \lambda \) (central mer.) \(- \Delta \lambda \)
GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

<table>
<thead>
<tr>
<th>STATE</th>
<th>N.</th>
<th>J.</th>
</tr>
</thead>
<tbody>
<tr>
<td>( x )</td>
<td>1,440,000.00</td>
<td></td>
</tr>
<tr>
<td>( K )</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>( x' = x - K )</td>
<td>-10,000.00</td>
<td></td>
</tr>
<tr>
<td>( x''/\left(6\rho_s^2\right)_s )</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>( S_s )</td>
<td>-10,000.00</td>
<td></td>
</tr>
<tr>
<td>( 3 \log x' )</td>
<td>12,000,000.00</td>
<td></td>
</tr>
<tr>
<td>( \log \left(1/\left(6\rho_s^2\right)_s \right) )</td>
<td>4.5810213</td>
<td></td>
</tr>
<tr>
<td>( \log x''/\left(6\rho_s^2\right)_s )</td>
<td>6.5810213</td>
<td></td>
</tr>
<tr>
<td>( \log S_m^2 )</td>
<td>6.86805338</td>
<td></td>
</tr>
<tr>
<td>( \log C )</td>
<td>1.3158111</td>
<td></td>
</tr>
<tr>
<td>( \log \Delta \phi )</td>
<td>6.2547464</td>
<td></td>
</tr>
<tr>
<td>( y )</td>
<td>130,000</td>
<td></td>
</tr>
<tr>
<td>( \phi' ) (by interpolation)</td>
<td>39.1124.96/9</td>
<td></td>
</tr>
<tr>
<td>( \Delta \phi )</td>
<td>0.8153</td>
<td></td>
</tr>
<tr>
<td>( \phi )</td>
<td>39.1124.96/7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOG</th>
<th>4.00</th>
<th>9.48401</th>
<th>10.46</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \log S_s )</td>
<td>3.45402667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log \left(1200/3937\right) )</td>
<td>5.5813584</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log \left(1/R\right) )</td>
<td>0.1196924</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log \sec \phi )</td>
<td>2.10534340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log \Delta \lambda )</td>
<td>0.209578</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log S_i )</td>
<td>3.45402667</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log A )</td>
<td>8.5813584</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \log \Delta \phi )</td>
<td>12.20891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \Delta \lambda )</td>
<td>12.20891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \lambda ) (central mer.)</td>
<td>74.4000.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \lambda )</td>
<td>74.4207.0091</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation of form:

\[ x' = x - K \]

\[ S_s = x' - \frac{x''}{\left(6\rho_s^2\right)_s} \]

\[ S_m = \frac{1}{R} \left(\frac{1200}{3937}\right) S_s \]

\( R = \) scale reduction factor

\( \phi' \) is interpolated from table of \( y \)

\( \Delta \phi = C S_m^2 \)

\( \phi = \phi' - \Delta \phi \)

\( \Delta \lambda = S_i A \sec \phi \)

\( \log S_s = \log S_m - \) cor. arc to sine

\( \log \Delta \lambda = \log \Delta \lambda + \) cor. arc to sine

\( \lambda = \lambda \) (central mer.) - \( \Delta \lambda \)
### Explaination of Form:

\[ z' = z - K \]

\[ S_s = z' - \frac{z'^2}{(6\rho_2)^s} \]

\[ S_m = \frac{1}{K} \left( \frac{1200}{3987} \right) S_s \]

*\( R = \) scale factor

\( \phi' \) is interpolated from table of \( y \)

\[ \Delta \phi = C \cdot S_m^2 \]

\[ \phi = \phi' - \Delta \phi \]

\[ \Delta \lambda_1 = S_s A \sec \phi \]

\[ \log S_t = \log S_m - \text{cor. arc to sine} \]

\[ \log \Delta \lambda = \log \Delta \lambda_1 + \text{cor. arc to sine} \]

\[ \lambda = \lambda (\text{central mer.}) - \Delta \lambda \]
GEODETIC POSITIONS FROM TRANSVERSE MERCATOR COORDINATES

**STATE: New Jersey**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Calculation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x$</td>
<td>1,990,000.00</td>
<td></td>
</tr>
<tr>
<td>$K$</td>
<td>2,000,000.00</td>
<td></td>
</tr>
<tr>
<td>$x' = x - K$</td>
<td>-10,000.00</td>
<td></td>
</tr>
<tr>
<td>$z''/(6p_s^2)$</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>$S_z$</td>
<td>-10,000.00</td>
<td></td>
</tr>
<tr>
<td>$3 \log x'$</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>$\log 1/(6p_s^2)$</td>
<td>4.5810213-20</td>
<td></td>
</tr>
<tr>
<td>$\log z''/(6p_s^2)$</td>
<td>6.96805338</td>
<td></td>
</tr>
<tr>
<td>$\log S_z$</td>
<td>1.316333</td>
<td></td>
</tr>
<tr>
<td>$\log \Delta \phi$</td>
<td>8.28439638</td>
<td></td>
</tr>
<tr>
<td>$\log S_t$</td>
<td>140,000.00</td>
<td></td>
</tr>
<tr>
<td>$\phi'$ (by interpolation)</td>
<td>39° 13' 03.8222&quot;</td>
<td></td>
</tr>
<tr>
<td>$\Delta \phi$</td>
<td>-0.0192</td>
<td></td>
</tr>
<tr>
<td>$\phi$</td>
<td>39° 13' 03.8031&quot;</td>
<td></td>
</tr>
<tr>
<td>$\lambda$</td>
<td>74° 40' 03.89&quot;</td>
<td>127.0585</td>
</tr>
</tbody>
</table>

Explanation of form:

$x' = x - K$

$S_z = x' - \frac{z''}{(6p_s^2)}$

$S_m = \frac{1}{R} \left( \frac{1200}{3937} \right) S_z$

$R =$ scale reduction factor

$\phi'$ is interpolated from table of $y$

$\Delta \phi = C S_m z''$

$\phi = \phi' - \Delta \phi$

$\Delta \lambda = S_t A \sec \phi$

$log S_t = log S_m - \text{cor. arc to sine}$

$log \Delta \lambda = log \Delta \lambda + \text{cor. arc to sine}$

$\lambda = \lambda (\text{central mer.}) - \Delta \lambda$
# GEODETiC POStiONS FROM TRANSVERSE MERCATOR COORDiNATES

<table>
<thead>
<tr>
<th>State</th>
<th>New Jersey</th>
<th>Station</th>
<th>J-5444</th>
</tr>
</thead>
<tbody>
<tr>
<td>$z_0$</td>
<td>1,990,000.00</td>
<td>$S_0$</td>
<td></td>
</tr>
<tr>
<td>$K$</td>
<td>2,000,000.00</td>
<td>$S_n$</td>
<td>3,484.0246.69</td>
</tr>
<tr>
<td>$z' = x - K$</td>
<td>$-1,000,000.00$</td>
<td>$\log S_1$</td>
<td></td>
</tr>
<tr>
<td>$x'^2/(6p_0^2)$</td>
<td></td>
<td>$\log (1200/3937)$</td>
<td>9.48401583</td>
</tr>
<tr>
<td>$S_1$</td>
<td></td>
<td>$\log (1/R)$</td>
<td></td>
</tr>
<tr>
<td>$3 \log x'$</td>
<td></td>
<td>$\log S_n$</td>
<td>2</td>
</tr>
<tr>
<td>$\log 1/(6p_0^2)$</td>
<td></td>
<td>$\log S_1$</td>
<td>3.4840266.7</td>
</tr>
<tr>
<td>$\log x'^2/(6p_0^2)$</td>
<td></td>
<td>$\log A$</td>
<td>8.50913958</td>
</tr>
<tr>
<td>$\log S_n$</td>
<td>6.96805339</td>
<td>$\log \sec \phi$</td>
<td>0.110.494.66</td>
</tr>
<tr>
<td>$C$</td>
<td>1.856.99</td>
<td>$\log \Delta_1$</td>
<td>2.1036659.1</td>
</tr>
<tr>
<td>$\Delta \phi$</td>
<td>8.283552.38</td>
<td>$\log \Delta_\lambda$</td>
<td>2.1036659.4</td>
</tr>
<tr>
<td>$\phi$</td>
<td>0.000000</td>
<td>$\Delta \lambda$</td>
<td>126.9597</td>
</tr>
<tr>
<td>$\phi'$ (by interpolation)</td>
<td>39.09 46.1391</td>
<td>$\lambda$ (central mer.)</td>
<td>74 40</td>
</tr>
<tr>
<td>$\Delta \phi$</td>
<td>0.0192</td>
<td>$\Delta \lambda$</td>
<td>+ 206.9597</td>
</tr>
<tr>
<td>$\phi$</td>
<td>39.09 46.1199</td>
<td>$\lambda$</td>
<td>74 42 06.9597</td>
</tr>
<tr>
<td></td>
<td>14.23 $^\text{mm}$</td>
<td></td>
<td>16.71 $^\text{mm}$</td>
</tr>
</tbody>
</table>

**Explanation of form:**

$z' = x - K$

$S_0 = z' - \frac{x'^2}{(6p_0^2)}$

$S_n = \frac{1}{R} \left( \frac{1200}{3937} \right) S_0$

$R =$ scale reduction factor

$\phi'$ is interpolated from table of $y$

$\Delta \phi = C S_n$

$\phi = \phi' - \Delta \phi$

$\Delta \lambda = S_0 A \sec \phi$

$\log S_1 = \log S_n -$ cor. arc to sine

$\log \Delta \lambda = \log \Delta \lambda +$ cor. arc to sine

$\lambda = \lambda$ (central mer.) $- \Delta \lambda$
Comparison with Previous Topographic Surveys

This compilation, T-5644, is adequate to supersede the previous topographic surveys in this area over the common area except as noted below:

T-147 (1842), 1:10,000
T-1597 (1865), 1:20,000 – Except for form lines
T-2453 (1899), 1:20,000
H-2165 (1891), 1:20,000

There is good general shoreline agreement between these old surveys and T-5644, however there have been numerous changes in detail.

Hydrographic and graphic control surveys as requested for hydrographic control were contemplated for this area in 1937. Corrections and additions to T-5644 as a result of these surveys will be made when this work is completed.

Comparison with Charts 1217 and 3243

This compilation shows numerous corrections to shoreline and interior detail on the present charts.

The two small islands shown on the charts at lat. 39° 12.0', long. 74° 40.6' and also at lat. 39° 10.3', long. 74° 41.7' are not visible on the photographs and no longer exist as islands.

See page 3 of descriptive report regarding landmarks.

Descriptions of Topographic Stations on Form 524.

Descriptions were checked against compilation and found correct except for the following:

The descriptions of stations N. J. Geod. S. 2723 and 2724 as given by New Jersey Geodetic Survey did not correspond to description given by U. S. C. & G. S. field inspection party. A letter will be sent to the New Jersey Geodetic Survey to determine which of the two sets of descriptions are correct. The positions plotted on compilation T-5644 are those of the U.S.C. & G.S. field inspection party.

Determination of Low Water Line

A strip of outer coast photographs Nos. M (172 to 180) 871-14 taken at 12:30 p.m. on Jan. 23, 1933 for the U. S. Beach Erosion Board were used to determine the low water line. These photographs were taken at approx. low tide.
These photographs were not used in the radial plot but were used for examination of detail along the coast line.

Feb. 9, 1937.

R. E. Ask

R. E. Ask

V. B. Jones
REVIEW OF AIR PHOTO COMPILATION NO.

Chief of Party:  E. H. Kirsch

Compiled by:  W. W. King

Project:  H. T. 205

Instructions dated:  May 16th, 1935

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation.  (Par. 16a, b,c,d,e,g and i; 26; and 64)

2. Change in position, or non-existence of wharves, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report.  (Par. 26; and 66 g,n)

3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report.  (Par. 65; and 66 d,e)

4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts.  (Par. 28)

5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.

6. The control and adjustment of the photo plot are discussed in the descriptive report.  Unusual or large adjustments are discussed in detail and limits of the area affected are stated.  (Par. 18b; 44; and 66 c,h,i)

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation.  (Par. 16a, 43, and 44)

NOTE:  Strike out paragraphs, words or phrases not applicable and modify those requiring it.  Paragraph numbers refer to those in the Topographic Manual.  Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."
8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 35, 37, 39, 40, 41)

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 15, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

13. The geographic datum of the compilation is M.A. 1927 and the reference station is correctly noted. unadjusted

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

15. The drafting is satisfactory and particular attention has been given the following:

1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.

2. The degrees and minutes of Latitude and Longitude are correctly marked.
3. All station points are exactly marked by fine black dots.

4. Closely spaced lines are drawn sharp and clear for printing.

5. Topographic symbols for similar features are of uniform weight.

6. All drawing has been retouched where partially rubbed off.

7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

16. No additional surveying is recommended at this time.

17. Remarks: None

18. Examined and approved;

E. H. Kirsch
Chief of Party

19. Remarks after review in office:

Reviewed in office by: R. E. Ask

Examined and approved:

E. K. Green
Chief, Section of Field Records

L. O. Reed
Chief, Division of Charts

W. L. Peacock
Chief, Section of Field Work

Chief, Division of Hydrography and Topography.
February 16, 1937.

Mr. Arthur Noack,
State Supervisor,
New Jersey Geodetic Control Survey,
17-19 William Street,
Newark, New Jersey.

Dear Sir:

I am enclosing a section of airphoto compilation T 5644, together with descriptions of New Jersey Geodetic Control Stations Nos. 2723 and 2724, as submitted by your project and as transmitted by a Coast and Geodetic Survey field party working under the direction of Lieutenant E. Kirsch.

You will notice the discrepancies in the descriptions as submitted by you and those submitted by the Coast and Geodetic Survey party. Station No. 2723 is described by your party as being 300 ft. northeast of Sea Isle City Blvd., while Mr. Kirsch's party states the mark is 1 ft. north of the extension of the center line of the Sea Isle City Blvd.

The description of Mark No. 2724, as submitted by your party, states the mark is on the northwest side of the road and 63.9 ft. northeast of telephone pole No. 3193. Mr. Kirsch's party, on the other hand, states that the mark is on the east side of State Highway No. 4 and 62.2 ft. south of pole No. 3193.

Would it be possible for you to check up the description of these two marks by an actual visit to the site, and report to this office in the very near future the correct description data.

Very truly yours,

(Signed) PAUL C. WHITNEY
Acting Director.

Enclosures.

CC - Prof. Kissam
Bronze disk in concrete monument. Flush with surface grass about 1' off edge of east shoulder, Route 4, directly in front of white two-story house. 39.6' N of A.C. pole #3171. 3.3 miles south of junction with Route 50.

Ocean View, N.J. Bronze disk in concrete monument. Flush with grass. On N.W. side Route 4, about 1' north of extension of E of road to Sea Isle City. 7.8' N.W. of corner of large vertical green direction sign (to Sea Isle City) 35.2' N.W. of E Route 4.
Geriatric Assessment

Route 4

Coops

Chicken Run

B

Gravel

Route 4

68.0

21.4

15.8

2.1

Concrete

Gravel

19.2

2.9 M.

2719

12.6

2.97

(E 8 8

E.R.A. 2719, Palermo, N.J.

Bronze disk in concrete monument, 3' under surface of grass, about 2' off edge S.E. gravel shoulder. N.J. Route 4, 19.2' S.W. of B.T. pole 283...

25 miles N.E. Palermo R.R. sta.

6

134.0

Gravel

Route 4

Gravel

E.R.A. 2721

Bronze disk in concrete monument, flush with surface of grass, about 2' off edge W. gravel shoulder of Route 4, 5.5' S.W. of Bell Tel. pole 2721.

At the junction Routes 59 and 4, Palermo, N.J.
Bronze disk in concrete monument. Flush with surface of ground, 2 ft. from edge S.E. gravel shoulder of Route 4, and about 10 ft. S.W. of extension of E. of road to South Seaville, N.J., 5 miles south of road to Sea Isle City.
Route 4

E.R.A #2726 (46-8-29)
Bronze disk in concrete. Flush with surface of grass about 9 off edge N.W. gravel shoulder.
Route 4, 1/29.9 NE of corner of Pine Lodge, 3 miles south of road to South Seaville.
DESCRIPTION OF RECOVERABLE HYDROGRAPHIC OR TOPOGRAPHIC STATION

Name: N. J. Geod. S. No. 2724
General locality: N. J. Cape May County
Locality: Dennis Twp. Ocean View
Datum: N.A. 1927
Class of party: E. H. Kirsch
Sheet No: 5644
Lat.: 39° 10' 622.3"
Long.: 74° 44' 370.0"
Elevation above high watermark: feet

Sketch for shore-line data and reference points:

N. J. Geod. S. No. 2723
39° 10' 1085.3"
74° 44' 1583.0"
68.0"

Detailed description:

LOCAL CONTROL SURVEY
STATE OF NEW JERSEY
DESCRIPTION OF MONUMENTS

Mon. #2723: [description of monument]
Mon. #2724: [description of monument]

Distances actually obtained in the field.

Hydrographic Manual, paragraph 187; Circular No. 30, 1933.
May 7, 1937

To the Director
U.S. Coast & Geodetic Survey
Washington, D. C.

Attention: Lieutenant H. W. Hemple

Dear Sir:

With reference to the discrepancies in descriptions of monuments #2723-2724 in Cape May County about which you inquired in letters of Feb. 16th and March 24th, we have had a little difficulty in ascertaining just what had occurred, but the answer is now at hand.

The descriptions of this pair of monuments as shown on the blueprint attached are correct for the final location. Monument 2724 was moved some time ago from its former position southeast of Rte. #4, while Monument 2723 as originally set was destroyed, and the number assigned to reference disk #2 for station Ocean.

Unfortunately we are unable to establish the former positions of these monuments which may have been used by Lieutenant Kirsh in his aerial mapping.

Very truly yours,

ARTHUR NOACK, State Supervisor
N.J. Geodetic Control Survey

By: Howard B. Ranken
Assistant State Supervisor

HBR: hko Encl.

Lt. Kirsh's position of 2724 and 2723 are possibly correct but in view of the above correspondence they have been questioned.
LOCAL CONTROL SURVEY
STATE OF NEW JERSEY

DESCRIPTION OF MONUMENTS

Mon. 2723: (N2° 12' to Triangulation Station Ocean) Ocean View, Dennis Twp., Cape May Co. "J." A standard U.S.G.S. disk set in concrete, on State Highway Route #4 about 300 ft. northeast of Sea Isle City Blvd. (Co. Rte. #25). It is located on the northwest side of the road, on a curve, and 0.37 ft. above the ground. The monument is 2.4 ft. northwest of the center line of Route #4; 37.9 ft. east of the east corner of the house of Pascuallie Conuso; and 78.4 ft. southeast of the north corner of the same house. Companion monument #2724 is 7 ft. southwest.

Mon. 2724: Ocean View, Dennis Twp., Cape May Co. "J." A standard U.S.G.S. disk set in concrete, on State Highway Route #4, at Magnolia Lake about 0.25 miles southwest of the Sea Isle City Blvd. (Co. Rte. #25). It is located on the northwest side of the road, just southeast of the retaining wall at the lake, and 0.35 ft. above the ground. The monument is 27.9 ft. northwest of the center line of the road; 48.9 ft. southwest of a pole #3194; and 63.9 ft. northeast of a pole #3193. Companion monument #2723 is 7 ft. northeast.

U.T. Grid Bearing: "Mon. 2723 to Mon. 2724 is"

Mon. 2723: feet
Location:
Elevation:
x-coord: (east)
y-coord: (north)
Mon. 2724: feet
Elevation:
x-coord: (east)
y-coord: (north)
March 24, 1937.

Mr. Arthur Hoack, State Supervisor,
New Jersey Geodetic Control Survey,
17-19 William Street,
Newark, N. J.

Dear Sir:

Under date of February 16, 1937, I sent you a letter, asking you to investigate the discrepancies in the descriptions pertaining to New Jersey Control Survey Stations Nos. 2723 and 2724. Under date of February 18 you replied to the effect that your party chief at Sea Isle City had been asked to investigate this matter. Has any reply been received from this man, and if so, will you please inform me as to the results of the investigation.

Your prompt attention to this matter will be appreciated.

Very truly yours,

(P. Whitney) Paul C. Whitney
Acting Director.
Details shown in red on T5644 Supplemental have been applied by C. W. Frederick and checked by C. G. Jones, 5/11/38, from the following sources:

(a) Plottable Survey, Field No. GG, Office No. C5-126-1; and Plottable Survey Field No. EF, Office No. C5-127-1. All details on C5-126-1 and C5-127-1 within the area of T5644 have been applied to T5644 supplemental except the following:

1. Temporary Plottable stations
2. Magnetic Meridian
3. Tide gauge locations

These descriptions are not necessary for the recovery of the stations and have not been put into the regular files. The stations are shown on T5644 supplemental without aid.

The sounding outside the HW line around the point on north side of Carson inlet merely indicates the character of the beach and not the deep water line. The water line was not surveyed on C5-127-1.

The range marks or Beacons in Main channel and timber therefore are noted in the report as temporary but are described as useful in making safe passage through the channel. They have been added to T5644 supplemental.
T344 Supplement has been compared with T 3231 and T 62-67 1937 and no discrepancies were found.

B G Jones
DESCRIPTIVE REPORT
FIELD II

Topographic
Hydrographic
Sheet No. REG. 5644

State: NEW JERSEY

LOCALITY
Atlantic Coast
OUTSIDE COAST—CAPE MAY COUNTY
STRATHMORE TO SEA ISLE CITY

1936

CHIEF OF PARTY
E. H. Kirsch

U.S. GOVERNMENT PRINTING OFFICE: 1936
R 5244 ( * " " " ) " new compilation Chart 827 (June 12/38)