DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

R. S. Parker, Director

State: District of Columbia

DESCRIPTIVE REPORT
Topographic
Hydrographic
Sheet No.: 4485c, 4485d

LOCALITY
D.C.
N.W. Washington
Bureau of Standards

1930-1931

CHIEF OF PARTY
L.C. Wilder
Note: Survey Work by C. M. Thomas in 1931 consisted of running line of Follen St. to location of 115th St. (These were applied to the transfer of surveys in 1930 and 1931—no special effect on further record of the work.)
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. [Handwritten]

State . District of Columbia ........................................

General locality . bureau of Standards

Locality ..............................................................

Chief of party . Chief, Division of Hyd. & Top'y

Surveyed by . L.O. Stewart

Date of survey . December 1922 and January 1923

Scale ............................................................ one inch equals eighty feet

Heights in feet above ............................................

Contour interval . . feet.

Inked by . L.O.S. . Lettered by . L.O.S.

Records accompanying sheet (check those forwarded): Photographs, Descriptive report, Horizontal angle books, Field computations, Data from other sources affecting sheet ........................................

Remarks:

Sheet already forwarded. See letter transmitting Field Records dated January 10, 1923

The original sheet was sent to Bureau of Standards by H.Y.T. on Jan. 17, 1923
DEPARTMENT OF COMMERCE

U.S. COAST AND GEODETIC SURVEY

R.S. PATTON — DIRECTOR

DESCRIPTIVE REPORT

to

ACCOMPANY

TOPOGRAPHIC SHEET NORTH OF BUREAU OF STANDARDS

WASHINGTON D.C.

L.C. Wilder

Chief of Party

Descriptive Report

to Accompany

Topographic Sheet No.

Bureau of Standards Washington, D.C.

L. C. Wilder; Chief of Party.

February 4 to February 27, 1930.

Instructions:

The instructions for the work on this sheet are dated January 30, 1930. The work was performed following a request for same by the Bureau of Standards of the Director of the Coast & Geodetic Survey.

Date of Survey: Field Work - Feb. 4 to Feb. 27, 1930.

Office Work - Feb. 28 to March 10, 1930.

Extent:

The topography covered by this sheet includes the area north of the Bureau of Standards, bounded on the east by Conn. Ave. on the north by Yuma St. projected, on the west by 36th St. and on the south by Van Ness St. A small area was also surveyed at the west side of Bureau of Standards property.

The south border of the work in the vicinity of Van Ness St. joins the work of Lt. C. D. Meaney of May 1929.

Total area surveyed is approximately _____ sq. miles. (stat)

General Description:

This parcel of land as described above is for the most part wooded, except for a portion near Conn. Ave. which is an open area.
The contour of the ground is somewhat irregular due to hills and valleys, fills and cuts. The wooded area contains, chiefly, oak trees with scattered pines and underbrush. The open areas are covered with grass and in some places low underbrush. Buildings, houses and shacks are scattered at intervals over the survey, principally on the western side. The area, except to the north, is bounded by paved or undeveloped streets.

CONTROL:

The survey was controlled by a closed traverse which was started and also ended at triangulation station East Base and which followed the borders of the area surveyed. An auxiliary traverse of equal accuracy was also run approximately north and south along the east edge of the property of Alfred T. Thom through the middle of the area, joining the main traverse at each end.

Levels were run around the traverse and elevations established on all traverse stations. One circuit started from B.M. 1 (1928) at the Industrial Building and ran around the east side of the area, across the north side to an iron pipe and then down the middle along the woods road to tie in with B.M. 1 again. Another line of levels started at B.M. 2 (1928) at the Dynamometer Building, ran around the west side and across the north side to the iron pipe of the first circuit. This iron pipe was used as a common check point for adjusting the two lines. A line of levels and return levels were also run to the southwest corner of the Bureau of Standards property from a T.P. in the main line of levels at Van Ness St. and Reno Road.

SURVEY METHODS:

The traverse stations were located at points which were considered most advantageous for planetable setups, about the edges and thru the middle of the area surveyed. The distances around the traverse
were measured with a 300 foot tape. It was necessary to break tape
many times because of differences in elevation. The interior angles
of the traverse at each station were measured with a 4½ inch theodolite
by one direct and one reverse measurement. Azimuth of the
traverse lines was obtained by measuring the angle at triangulation
station Standards from triangulation station Monument to traverse sta-
tion B. Then setting up at B and measuring the angle from C to Standards.
Thus obtaining the azimuth of the line B-C. This azimuth was then
checked in the same manner except that a point B' (on the projection
of the line c-b) was used instead of the station B as the line Standards
to B was partly obscured by trees. The two determinations differed slightly
and the second determination was used as the sights were unobstructed.
The co-ordinates of traverse stations were then computed and plotted on
the projection from Lat. 38-56-30 N. and Long. 77-04 as an origin.

Levels were run as explained in paragraph "CONTROL".
The elevation of each traverse station was established to one thousandths
of a foot. The elevations of intermediate stations was established to the
nearest hundredth of a foot. In adjusting the levels the circuit begin-
ing and ending at B.M. 1 and the line from B.M. 2 were treated as three lines
from known bench marks to the iron pipe at the north boundary of the work.
Adjustment was made by weighting the three lines in inverse ratio to the
length of the respective lines.

Details of the topographic sheet with the exception of a few
tape measurements were by planetable. A level rod head perpendicular to
the line of sight was used. Horizontal distances and differences of elev-
ation were computed by natural cosines and tangents by a computer at the
planetable. The majority of the setups were made at traverse stations.

ALL ELEVATIONS ON THE SHEET INCLUDING BENCH MARKS ARE
REFERRED TO MEAN HIGH WATER (1.5 feet above M.S.L.)
ERRORS OF CLOSURE:

From the computations of this eleven sided traverse, the angular closure was fifteen seconds too small. The latitudes closed within 49 hundred feet and the departures within 10 hundred feet. No adjustment of the latitude and departure of the traverse was made as the error of closure was considered too small to plot. The angular closure of 15 seconds was adjusted before the latitudes and departures were computed.

The extreme differences of elevation of all three lines of levels to the iron pipe at the north boundary of survey was 0.023 f. et. The levels were adjusted in proportion to the lengths of their respective lines.

PERSONNEL:

The work was executed entirely by deck officers attached to the training section, and under the direct supervision of chief of party, Lieut. L.C. Wilder. Lieut L.C. Wilder, E.L. Jones, and C.R. Reed made tape measurements and E.L. Jones made the traverse angle measurements. L.C. Wilder and C.R. Reed ran the levels. C.R. Reed and W.C. Russell did the planstable work with other officers rodding and computing. A hand was furnished by the Bureau of Standards for unskilled work.

RECOVERABLE STATIONS:

Traverse stations B, C, H and C have been described and their positions defined for future surveys. From Sta. B to Sta. C substations were accurately established every 100 feet which may be of future use. These are along the center of the sidewalk along the west side of Connecticut Ave. They are chisel cuts in the cement thus -<+>. The elevations of these points were also established. There follows a list of traverse and bench marks.
UNADJUSTED CO-ORDINATES OF STATIONS - referred to Lat. 36-56-30 and Long. 77-04 as an origin. (Traverse closed in azimuth 15")

which error was adjusted by correcting the angles at stations J and L - after this adjustment the traverse closed with an error of 0.49 feet in Lat. and 0.10 feet in Departure which was not adjusted.)

<table>
<thead>
<tr>
<th>Station</th>
<th>Latitude</th>
<th>Departure</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Base</td>
<td>130.50 N</td>
<td>145.39 R</td>
</tr>
<tr>
<td>A</td>
<td>385.15 N</td>
<td>755.63 E</td>
</tr>
<tr>
<td>B</td>
<td>777.46 N</td>
<td>854.62 R</td>
</tr>
<tr>
<td>C</td>
<td>1663.93 N</td>
<td>452.94 E</td>
</tr>
<tr>
<td>C'</td>
<td>1607.12 N</td>
<td>491.11 E</td>
</tr>
<tr>
<td>D</td>
<td>1674.34 N</td>
<td>276.60 W</td>
</tr>
<tr>
<td>G</td>
<td>1675.97 N</td>
<td>990.10 W</td>
</tr>
<tr>
<td>C'</td>
<td>1876.58 N</td>
<td>1081.62 W</td>
</tr>
<tr>
<td>H</td>
<td>973.84 N</td>
<td>993.75 W</td>
</tr>
<tr>
<td>J</td>
<td>593.03 N</td>
<td>805.05 W</td>
</tr>
<tr>
<td>K</td>
<td>442.29 N</td>
<td>351.34 W</td>
</tr>
<tr>
<td>L</td>
<td>176.53 N</td>
<td>260.06 W</td>
</tr>
<tr>
<td>M</td>
<td>173.31 N</td>
<td>174.00 W</td>
</tr>
<tr>
<td>East Base</td>
<td>130.01 N</td>
<td>145.29 E</td>
</tr>
</tbody>
</table>

ADJUSTED ELEVATIONS to mean sea level as obtained by connection with bench marks Nos. 1 and 2 established by C.D. Meany in 1928.

<table>
<thead>
<tr>
<th>Station</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>259.064</td>
</tr>
<tr>
<td>B+1</td>
<td>256.127</td>
</tr>
<tr>
<td>B+2</td>
<td>253.112</td>
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<tr>
<td>B+3</td>
<td>250.171</td>
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<tr>
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<td>B+6</td>
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<td>B+7</td>
<td>238.594</td>
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<tr>
<td>B+8</td>
<td>236.552</td>
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<tr>
<td>B+9</td>
<td>235.219</td>
</tr>
<tr>
<td>C</td>
<td>234.626</td>
</tr>
<tr>
<td>C'</td>
<td>234.298</td>
</tr>
<tr>
<td>H</td>
<td>314.776</td>
</tr>
<tr>
<td>G'</td>
<td>290.975</td>
</tr>
</tbody>
</table>

* Long level shot, possible error of .05 feet.  Comp. L.C.W
Checked C.R.R.
Copy Checked W.C.R. WCH

Respectfully submitted,

L.C. Wilder
To: The Director.

From: Lieut. L.C. Wilder.

Subject: Survey at the Bureau of Standards.

Your instructions of January 30 calling for a survey at the Bureau of Standards have been completed and the sheet will be forwarded to the office today, complete except for names of buildings and streets which have been places on the sheet in pencil.

Property boundary lines have been shown on the sheet in blue as taken from a survey furnished by the District Surveyor. These are not however complete on my topographic sheet as difficulty was experienced in making the two surveys agree and it is suggested that if the Bureau of Standards desire the complete boundry lines on the sheet that they take the matter up with the District Surveyor.

What changes found in the area surveyed in 1928 by Lieut. Meany have been indicated on his original sheet, by contours in red ink and other changes in blue ink. The changes were few. It is probable that the Bureau of Standards will wish a revised tracing of this sheet.

L.C. Wilder.

Tracing of T. 44S. S., made by V.E. Billings delivered to Bureau of Standards on April 17, 1930.

E.P. Ewain
Sheet No. T. 4485d is a compilation on vellum of the site of
the National Bureau of Standards showing existing buildings and
the present boundaries of the Bureau's grounds.

It was compiled from original surveys made by the U. S. Coast
and Geodetic Survey:

1. T. 4485a, L. O. Stewart, January 1923
2. T. 4485b, C. D. Meany, May 1928, with corrections and
   additions by L. C. Wilder and C. R. Reed in
   February 1930.
3. T. 4485c, L. C. Wilder, February 4-27, 1930,

together with information supplied by the District survey office
and the Bureau of Standards. The drawing was made under the direct
supervision of Dr. H. D. Hubbard and Mr. L. H. Lockwood of the
Bureau of Standards, all suggestions for additions or changes being
followed scrupulously.

H. E. MacEwen
Assistant Cartographic Engineer.
Sheet No. T. 4485d is a compilation on vellum of the site of the National Bureau of Standards showing existing buildings and the present boundaries of the Bureau's grounds.

It was compiled from original surveys made by the U. S. Coast and Geodetic Survey:

1. T. 4485A, L. O. Stewart, January 1923
3. T. 4485C, L. C. Wilder, February 4-27, 1930,
together with information supplied by the District survey office and the Bureau of Standards. The drawing was made under the direct supervision of Dr. R. D. Hubbard and Mr. L. H. Lockwood of the Bureau of Standards, all suggestions for additions or changes being followed scrupulously.

H. E. MacEwen
Assistant Cartographic Engineer.
Get from Coast & Geodetic Survey Thursday
Room 401, 119 B St. N. E.

1 Tracing for Mr. Hubbard

FAR
4/16/30

Tracing of T. 4485C

Returned To Bureau of Standards April 17, 1930

E. H. Lee

Form 11-b
<table>
<thead>
<tr>
<th></th>
<th>MHW (in feet)</th>
<th>MSL (in feet)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.M.</td>
<td>248.219</td>
<td>249.719</td>
<td>1.500</td>
</tr>
<tr>
<td></td>
<td>277.070</td>
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<tr>
<td></td>
<td>310.3</td>
<td>314.776</td>
<td>1.476</td>
</tr>
<tr>
<td></td>
<td>233.1</td>
<td>234.625</td>
<td>1.325</td>
</tr>
<tr>
<td>Sta C</td>
<td>233.398</td>
<td>234.898</td>
<td>1.500</td>
</tr>
<tr>
<td>Sta B</td>
<td>257.6</td>
<td>259.064</td>
<td>1.464</td>
</tr>
<tr>
<td>Sta H</td>
<td>313.3</td>
<td>314.776</td>
<td>1.476</td>
</tr>
</tbody>
</table>
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

REVISED SURVEY

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. ........................................... 4485b

State ........................................ District of Columbia.

General locality ................................ Washington D.C.

Locality ........................................ Bureau of Standards.

Chief of party ................................ Revision by L.C. Wilder

Surveyed by ........................................ Revision by C.R. Reed

Date of survey ...................................... February 27, 1930

Scale ........................................ See sheet

Heights in feet above mean high water (1.5 feet above M.S.L.)

Contour interval .................................. 5 feet

Inked by ........................................ C.R. Reed

Lettered by ....................................... 

Records accompanying sheet (check those forwarded): Photographs, Descriptive report, Horizontal angle books, Field computations, Data from other sources affecting sheet

Remarks: The only revision work accomplished is shown on the sheet in red and blue ink, contours in red and other features in blue.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

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U. S. Coast and Geodetic Survey.

Register No. 4485C

State . . . . . District of Columbia . . . . . . . . . . . . .
General locality . . . Washington D.C.
Locality . . . . Bureau of Standards.
Chief of party . . . L.C. Wilder.
Date of survey . . February 4 to 27, 1930.
Scale 1 inch = 80 feet (see sheet) = 1:960
Heights in feet above mean high water (1.5 feet above M.S.L.)
Contour interval . 5 feet.
Inked by C.R. Reed. Lettered by C.R. Reed.

Records accompanying sheet (check those forwarded): Photographs,
4 Desc. of Topo. Sta. 6 Desc. of B.M. 8'S Recovery Notes.
Descriptive report, Horizontal angle books, Field computations,

Data from other sources affecting sheet Property lines (shown in blue on the sheet) are from a survey by the District Surveyor in December 1929. Property lines are not complete on the Topographic sheet for the reason that insufficient data was obtainable from the city survey.

Sheet completed except that names of streets and buildings have not been completely inked in.
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. 

REGISTER NO. 4485d

State D.C. 

General locality N.W. Washington 

Locality Site of the National Bureau of Standards 

Scale 1 inch = 80 feet 
Date of survey Sept. 1, 1923 

Vessel

Chief of Party

Surveyed by

Inked by H.E. Magee

Heights in feet above to ground to tops of trees

Contour, approximate contour, Form line interval 5 feet

Instructions dated 

192

Remarks Compiled from surveys by U.S.C.G.S. and other sources

프로그램