

- 56 -

MERIDIANS OF WASHINGTON

Frank L. Culley

- - -

On L'Enfant's plan of the Federal city there is plotted the letter B on the site of the Emancipation Statue in Lincoln Park, about one mile east of the Capitol. A marginal note indicates that on this site was to be:

"An historic column; also intended for a mile or itinerary column, from whose station (a mile from the Federal house) all distances of places through the continent are to be calculated."

This is the only evidence that it might have been L'Enfant's idea to have the primary meridian of the United States pass through this point. On the same map, however, the longitude of the Capitol is given as $0^{\circ}00'$, indicating that the primary meridian should pass through the Congress House which, of course, could not also pass through a point one mile east.

The task of laying off the streets, avenues and reservations was performed according to L'Enfant's plan in 1891¹⁷⁹¹ and 1892¹⁷⁷² by Andrew Ellicott. He began by drawing "a true meridional line by celestial observation, through the area intended for the Congress House; this line he crossed by another due east and west, which passes through the same area. These lines were accurately measured and made the bases on which the whole plan was executed". Incidentally, these are also the dividing lines for the northwest, northeast, southeast and southwest sections of the city.

In 1804, Nicholas King, under the direction of a Mr. Brigg, laid out a meridian through the center of the President's house. This was also established by celestial observations by setting up a transit at the northern door of the President's house and pointing to the star "in the tail of the constellation Ursa Minor at its eastern elongation, and, continuing the vertical circle to the ground, he determined the bearing, in line of which on very low stand was placed one of Argand's lamps covered by a tin cylinder, in which a small slit was made for a sight, and the line from the light toward the instrument was drawn upon the stand". This stand was located on the northern side of I Street at the intersection of Sixteenth Street. Turning back toward the west with the transit through the horizontal angle formed

by the eastern elongation and the upper culmination of Polaris, a point was found on top of a hill nearly two miles due north of the President's house, on the lands of Mr. Robert Peter. This line was temporarily marked with wooden posts and later, with Mr. Peter's permission, a small obelisk of freestone was placed so that its apex was in the true meridian from the center of the north door of the President's house. From this survey the names "Meridian Hill" and "Meridian Park" were derived.

The line was extended south of the President's house to intersect the east and west line through the Capitol. Since the Capitol could not be seen from this point, an obelisk known as the Capitol Stone was established at the intersection of the meridian and the east-west line passing along the south edge of the "old Capitol". A distance equal to half the length of the Capitol was then measured northward from the Capitol Stone to establish the point which is the intersection of the meridian of the President's house and the west line from the Capitol. This was marked by a small pier covered by a flat freestone on which the lines were drawn. This pier was on the south bank of Tyber Creek.

It is not known why this meridian was established. Some think it might have been President Jefferson's idea to have the principal meridian of the United States pass through the President's house and that the line was marked at his instigation.

In his centennial history of Washington, Commissioner Webb called the freestone cap on the pier, which marked the intersection of the President's house (or, Sixteenth Street) meridian, and the east-west line through the Capitol, the Jefferson Stone. The pier was partly destroyed and covered during the process of grading. Part of the pier was recovered later and a new stone was set in its place. During further grading in 1935, the stone was raised so as to be almost flush with the new surface of the ground. It is 371 feet west and 123 feet north of the center of the Washington Monument.

In 1889 the Office of Public Buildings and Grounds placed a 17-inch square of granite stone marked "U. S. Meridian 1890" within the "Ellipse" south of the White House in the meridian of the Jefferson pier, and 1505 feet, 4-1/2 inches north of it.

On June 4, 1923, with appropriate ceremonies, a zero milestone, the center of which is the starting point for the measurement of distances over all highways radiating from Washington, was unveiled. (L'Enfant had in mind the placing of such a marker in what is now Lincoln Park. See first paragraph.) A description of this stone in the "Program of Exercises attending the Unveiling and Dedication of the Zero Milestone Monument" states:

"The location of the stone is on the Meridian of District of Columbia as marked by the 'Jefferson Stone' placed south of the Ellipse in 1804."

According to the position of the Zero Milestone as determined by the Coast and Geodetic Survey, its center is 0.3 meter (1 foot) west of the meridian through the White House.

More than a century ago various nations reckoned their longitude usually from their own capitals. Congress by act approved September 28, 1850, ordered -

"That hereafter the meridian of the observatory at Washington shall be adopted and used as the American meridian for all astronomic purposes and Greenwich for all nautical purposes."

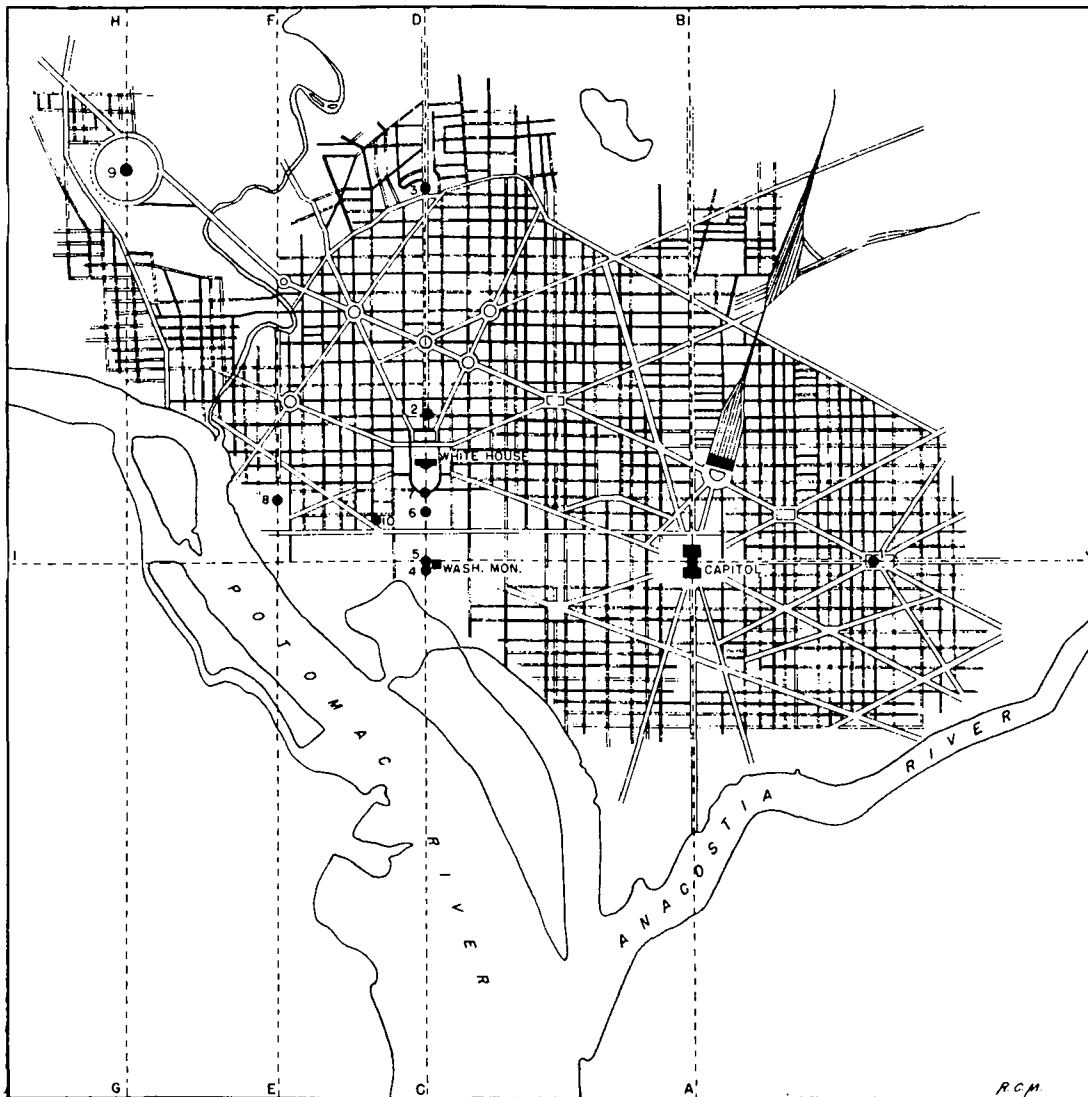
The longitude of the North American datum of this meridian, which passes through the old Naval Observatory (now one of the buildings on the grounds of the U. S. Naval Hospital), is $77^{\circ} 03' 06'' 119$.

The boundaries of several states and territories were defined with reference to the meridian of Washington. The act was repealed August 22, 1912.

In 1882, Congress recognized the advantage of having a common initial meridian for all countries and by a joint resolution, authorized the President of the United States to call a conference for this purpose. This conference met in Washington in October, 1884, with 26 nations represented. It recommended the adoption of the meridian of the Royal Observatory, Greenwich, England. This is now almost universally used. All points in the United States are referred to this meridian. It was adopted by France in 1911.

The "Meridian of Washington" referred to in the "American Ephemeris and Nautical Almanac" is that one which passes through the center of the clock room of the present U. S. Naval Observatory.

(Sketch and legend given on following page.)



1. Site proposed by L'Enfant for an itinerary column from which all distances on the continent were to be measured.

2. Stake set at the intersection of "Sixteenth and north I Street".

3. Meridian Hill stone marking the north end of the White House meridian as established by Nicholas King in 1804.

4. Capitol Stone on the meridian through the White House and the east-west line through the south end of the Capitol as it existed in 1804. The mark is now nonexistent.

5. Jefferson pier on the meridian through the White House and the east-west line through the center of the Capitol. It is now marked with a granite post 123 feet north of the Washington Monument and 371 feet west of it.

6. Stone marked "U. S. Meridian 1890" set in the meridian of the White House 1505 feet, 4-1/2 inches north of the granite post marking the site of the Jefferson pier.

7. Zero Milestone, the center of which is one foot west of the White House meridian.

8. Old Naval Observatory (the building still exists) on the grounds of the U. S. Naval Observatory. The meridian (EF) of the center of the dome served as the initial meridian for the boundaries of several states and territories. It was intended as the prime meridian of the United States.

9. Center of the clock room of the present U. S. Naval Observatory.

10. Center of the original District of Columbia - a point unmarked but at about 18th and C Streets northwest.

AB Meridian of the District of Columbia established by Andrew Ellicott to serve as a base for laying out the streets of the Federal city.

CD Sixteenth Street, or White House, meridian through the center of the north door of the "President's house" - marked by 4 and 5.

EF Initial meridian of the United States, through the center of the dome of the old U. S. Naval Observatory.

GH "Meridian of Washington" through the center of the clock room of the U. S. Naval Observatory.

IJ East-west line through the center of the Capitol

VALUES OF ASTRONOMICALLY DETERMINED LONGITUDES WEST OF GREENWICH

<u>Name of Station</u>	<u>On Meridian</u>	<u>Longitude</u>
Old U. S. Naval Observatory, center of dome.	EF	77° 03' 02"30
U. S. Naval Observatory, center of clock room.	GH	77° 03' 56"76

VALUES OF GEODETICALLY DETERMINED LONGITUDES WEST OF GREENWICH
ON THE NORTH AMERICAN DATUM

Name of Station	On Meridian	Longitude
Capitol, head of Statue of Freedom	AB	77° 00' 33".533
Jefferson Pier	CD	77° 02' 12".48
Meridian Stone of 1890	CD	77° 02' 12".478
Zero Milestone	one foot west of CD	77° 02' 12".492
Old U. S. Naval Observatory, center of dome	EF	77° 03' 06".119
U. S. Naval Observa- tory, center of clock room	GH	77° 04' 02".24

- Δ -

TYPICAL YAKAN MORO FAMILY



- Δ -