NPS Form 10-900
(Rev. 11-90)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties or districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to compete all items.

1. Name of Property

Historic name: Connecticut Avenue Bridge over Klingle Valley
Other names/site number:

2. Location

Street & Number: Connecticut Avenue, NW over Klingle Valley [ ] Not for Publication
City or town: Washington [ ] Vicinity
State: D.C. Code: DC County: Code: 001 Zip Code: 20006

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this [X] nomination [ ] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property [X] meets [ ] does not meet the National Register criteria. I recommend that this property be considered significant [ ] nationally [ ] statewide [X] locally. ([ ] See continuation sheet for additional comments.

Lisa M. Burcham - DC SHPO 3/24/04
Signature of certifying official/Title Date

District of Columbia Historic Preservation ~~Division~~ Office
State or Federal agency and bureau

In my opinion, the property [ ] meets [ ] does not meet the National Register criteria. ([ ] See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby, certify that this property is:
[✓] entered in the National Register.
( ) see continuation sheet
[ ] determined eligible for the National Register
( ) see continuation sheet
[ ] determined not eligible for the National Register
[ ] removed from the National Register
[ ] other, (explain:)

Signature of the Keeper Date of Action
Patrick W. Andrus 5/21/2004

5. Classification

Ownership of Property	Category of Property	No. Resources within Property	
		Contributing	Noncontributing
[ ] Private	[ ] Building(s)		
[X] Public-Local	[ ] District	____	____ Buildings
[ ] Public-State	[ ] Site	____	____ Sites
[ ] Public-Federal	[X] Structure	1	____ Structure
	[ ] Object	____	____ Objects
		1	____ Total

Name of related multiple property listing

_____

Number of contributing Resources previously listed in the National Register 1

6. Function or Use

Historic Functions (enter categories from instructions)

TRANSPORTATION/Road-Related

Current Functions (enter categories from instructions)

TRANSPORTATION/Road-Related

[X] See continuation sheet

7. Description

Architectural Classification
(enter categories from instructions)

MODERN MOVEMENT/Art Deco

Materials (enter categories from instructions)

Foundation: CONCRETE; STONE
Walls:
Roof: N/A
Other: STEEL-ARCH

Narrative Description

Describe the historic and current condition of the property on one or more continuation sheets

[X] See continuation sheet

8. Statement of Significance

Applicable National Register Criteria
(Mark x in one or more boxes for the criteria qualifying the property for National Register listing.)

[X] **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

[ ] **B** Property is associated with the lives of persons significant in our past.

[X] **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark x in all the boxes that apply.)

[ ] **A** owned by a religious institution or used for religious purposes.

[ ] **B** removed from its original location.

[ ] **C** a birthplace or grave.

[ ] **D** a cemetery.

[ ] **E** a reconstructed building, object, or structure.

[ ] **F** a commemorative property.

[ ] **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

ARCHITECTURE
TRANSPORTATION
COMMUNITY PLANNING AND DEVELOPMENT

Period of Significance
1930-77

Significant Dates
1930-32, 1977

Significant Person
(Complete if Criterion B is marked above.)
N/A

Cultural Affiliation
N/A

Architect/Builder
Modjeski, Ralph
Cret, Paul
Masters, Frank M.

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

[X] See continuation sheet

9. Major Bibliographic References

[X] See continuation sheet

Previous documentation on file (NPS):
[ ] preliminary determination of individual listing (36 CFR 67)
[x] previously listed in the NR
[ ] previously determined eligible by the National Register
[ ] designated a National Historic Landmark
[ ] recorded by Historic American Buildings Survey #_____
[X] recorded by Historic American Engineering Record # DC-27

Primary location of additional data:
[X] State SHPO office
[ ] Other State agency
[X] Federal agency
[ ] Local government
[ ] University
[ ] Other
Specify repository:
_____

10. Geographical Data

Acreage of property less than one acre

UTM References Washington West USGS Map

1) /1/ /3/2/1/7/0/0/ /4/3/1/1/3/6/2/
Zone Easting Northing

2) /1/ /3/2/1/7/4/4/ /4/3/1/1/2/2/5
Zone Easting Northing

[ ] See continuation sheet

Verbal Boundary Description
The boundary of the Connecticut Avenue Bridge over Klingle Valley begins at the north end of the bridge south of Macomb Street in northwest Washington, D.C. and extends south on Connecticut Avenue just north of the Kennedy-Warren apartment building.

[ ] See continuation sheet

Boundary Justification
The boundary of the Connecticut Avenue Bridge over Klingle Valley includes the bridge proper at Connecticut Avenue in Washington, D.C. This is the length of the original bridge span as constructed in 1931.

[ ] See continuation sheet

11. Form Prepared By

Name/title Elizabeth A. Crowell/Archaeologist, Elizabeth B. O'Brien and Simone Monteleone Moffett/Architectural Historians
Organization Parsons Date August 20, 2003
Street & Number 10521 Rosehaven Street Telephone (703) 591-7575
City or Town Fairfax State VA Zip code 22030

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name District Department of Transportation
street & number 64 New York Avenue, N.E. First Floor telephone 202-671-2800
city or town Washington state D.C. zip code 20002

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
Continuation Sheet

CONNECTICUT AVENUE BRIDGE OVER KLINGLE VALLEY, WASHINGTON, D.C.

Section number 7 **Page** 1

SUMMARY DESCRIPTION

The Connecticut Avenue Bridge over Klingle Valley (D.C. Bridge No. 27) carries Connecticut Avenue over the deep, wooded ravine of the Klingle Valley in northwest Washington, D.C.. Connecticut Avenue northwest and southeast of the bridge is lined with apartment buildings and low-rise commercial buildings. The historic route of Klingle Road runs beneath the bridge. For more than a century, this road was among several routes providing access between the east and west sides of the Rock Creek Valley. After part of the road washed away in 1991, it was closed to automobile traffic.

The bridge was constructed in 1931 to replace a viaduct built by a streetcar company in 1892 to extend Connecticut Avenue to the Maryland line. Designed through the collaboration of architect Paul Cret and engineer Ralph Modjeski, the new bridge was built for the District of Columbia Department of Highways under the supervision of Clifford Riddle Whyte, the Engineer of Bridges in the D.C. Department of Highways. Resident engineer Albert B. Green oversaw construction onsite.[1] Its construction cost of approximately $458,951, remained below its Congressional budget limit of $500,000.

DETAILED DESCRIPTION

The Connecticut Avenue Bridge over Klingle Valley is a 497-foot-long bridge composed of a 250-foot-long steel arch with 123.5-foot abutments at each end. It carries a 60-foot-wide roadway flanked by 10-foot-wide sidewalks. An arched bridge was selected for the crossing to correspond with the other arched bridges over Rock Creek. At the time the bridge was built, the Klingle Valley had been selected as the site for a federally owned park and parkway. Thus the appearance of the bridge from the planned park below was of special concern. To keep the valley as open as possible, the arch was sprung from points far up the slope, creating a flat curve with a rise of only 28 feet.[2] At its center, the bridge rises 50 feet above the valley below.

The open-spandrel arch is composed of four ribs whose design allowed the structure to carry traffic continuously during its construction. The two center arch ribs were placed as close as possible to the

columns of the old viaduct. The side portions were designed as independent structures so that they could carry traffic while the old bridge was demolished and the new section built between them. The original plans include a diagram indicating the phased construction that successfully allowed for continuous traffic. Hinges at each end of the arched ribs anchor them to stone-faced concrete abutments.

The silicon steel ribs of the bridge were built to carry two 40-ton street railway cars on each of the two tracks. The roadway space was loaded at 150 pounds per square foot, and sidewalks were loaded at 50 pounds per square foot.[3] In addition to live loads (vehicles), the bridge was designed to carry dead loads that included water mains, telephone lines of the C&P Telephone Company, and power lines of the Capital Traction Streetcar Company, the Potomac Electric Power Company (PEPCO), and the Georgetown Gas and Light Company.[4]

The bridge was designed with the capability of being widened at a later time. The two inner ribs were intended to be strong enough to carry more than half of the load. If the roadway were to be widened to 80 feet and 10 foot-wide sidewalks added to each side, the resulting overhang of the deck would equalize the load on the four ribs.[5] The stone-faced abutments are hollow, and the steel-framed floor is supported by steel columns encased in concrete or embedded in the sidewalls. Stone benches are set inside each of the stone parapets. Each abutment is further ornamented with four bronze lanterns on fluted stone urn-shaped bases. All exposed surfaces on the abutments are stone masonry. The walls are clad with local rubble, and corner elements are rock-faced Pennsylvania sandstone. Dressed masonry of smooth variegated Indiana limestone was used for the benches, coping, parapet, and lantern bases.[6]

The metal handrailings above the metal-arched section of the bridge consist of round handrails supported by streamlined fluted posts. Below the handrails, wrought iron grids span the space between each post. Cast inset panels with an Art Deco-inspired chevron motif flank each post. Matching sections of handrails and panels are set at intervals in the stone parapets of the abutments. Four trolley poles, which also served as street lamps, were designed to blend harmoniously with the surrounding environment. The Capital Traction Company was responsible for funding the portion of the poles used by the streetcar line. The poles were evenly distributed, two on each side of the bridge. The two on the northeast side have been removed. The two remaining on the southwest side are rusted and lack the original portion that held the light fixtures and globes. Currently, lighting is provided by three modern cobra-head light fixtures,

two on the west side of the deck at the abutments and one on the east side of the deck at the middle of the span.

ENDNOTES

[1] H.C. Whitehurst, "Building a Bridge in Three Strips," *Engineering News-Record* (December 29,1932): 784-786.
[2] Whitehurst, 785.
[3] Whitehurst, 785.
[4] Modjeski, Masters and Chase, *Connecticut Avenue Bridge Across Klingle Valley-Contract Drawing 5.* Office of Planning, Design and Engineering (ca. 1930).
[5] Whitehurst, 785.
[6] Whitehurst, 786.

STATEMENT OF SIGNIFICANCE

The Connecticut Avenue Bridge is an excellent example of an engineering design which illustrates changing transportation modes in Washington, D.C. in the early twentieth century. It was built in 1931 to replace an obsolete bridge that had been built in 1891 by the Rock Creek and Potomac Railway Company. By the 1930s, Connecticut Avenue had become a major thoroughfare and automobiles had almost completely supplanted horse-drawn vehicles. The new bridge was built to provide a wider crossing that would safely carry pedestrians, cars, trucks, and buses, as well as streetcars over the Klingle Valley.

The Connecticut Avenue Bridge has been deemed a contributing element to the Cleveland Park Historic District. The bridge meets Criteria A and C for individual listing in the National Register of Historic Places and is significant under the themes of architecture, community planning/development and transportation with the period of significance extending from 1930 to 1977.

The Connecticut Avenue Bridge meets Criterion A of the National Register of Historic Places for its significance in the area of community planning. It was perceived at the time it was built as a work of civic architecture. Its extensively reviewed design was selected for its aesthetic contributions to the surrounding environment. Because of its prominent location in Washington, D.C., its design was subject to the review of the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA), which was charged with assuring the appropriateness of new public buildings and structures in the national capital. The aesthetic sensibilities of the CFA were largely derived from the ideals of the 1901 McMillan Senate Park Commission Report. This report espoused the perpetuation of classical ideals of beauty in civic architecture, homage to Pierre L'Enfant's original 1791 plan of the city, and the creation and maintenance of both formal and naturalistic urban parks.

The Connecticut Avenue Bridge meets Criterion C of the National Register for its execution in the Art Deco style, its engineering design and its distinctive method of construction. The bridge was designed by engineer Ralph Modjeski and architect Paul Cret, both men had worked together

several times in the previous decade to design monumental bridges acclaimed for both their stability and beauty. In addition, the Connecticut Avenue Bridge embodies distinctive characteristics of a method of construction and represents technological advances in the field of engineering. As a result of Connecticut Avenue being such an important artery for Washington, D.C., local officials feared that the construction of a new bridge would create traffic hardships. To allay these fears, the bridge was built in stages with at least two lanes available to allow traffic to continue uninterrupted over the bridge throughout construction. The Connecticut Avenue Bridge was one of the earliest examples of this type of multi-phase construction method in the United States.

HISTORICAL BACKGROUND

Early history of the Klingle Valley Vicinity (1751-1890)

The Connecticut Avenue Bridge over Klingle Valley is located in northwest Washington, D.C., in an area that remained only sparsely developed until the late-nineteenth century. The bridge spans a small tributary of Rock Creek, which empties into the Potomac River. In 1751, the Maryland Assembly authorized the establishment of the port of Georgetown at the small settlement that had developed at the confluence of Rock Creek and the Potomac River. The first documented bridge in the vicinity was built in 1788 to cross the Rock Creek near Bridge Street (present day M Street).[3] Two years later, in 1790, the federal government selected the region for its national capital. For the new capital, Andrew Ellicott and Benjamin Banneker surveyed a 100-square-mile, diamond-shaped area that encompassed all of Georgetown, as well as the port at nearby Alexandria, Virginia

In designing a city within this massive district, Pierre L'Enfant retained the alignment of Georgetown's Bridge Street and expanded it into a grid encompassing approximately 3,000 acres. Rock Creek formed the northwestern boundary between the new city and Georgetown. Near present-day P Street, this northwest boundary continued east along a ragged natural escarpment. The curving road along this northern boundary first was called Boundary Street and later renamed Florida Avenue.

In the eighteenth and early nineteenth centuries, Rock Creek and its tributaries were used for industry and trade. The creek was navigable below present-day P Street, and its northern reaches powered at least eight mills.[4] Of these mills, Isaac Pierce's Mill, located about a half-mile northwest of the Connecticut Avenue Bridge, is the only one that remains. It was listed in the National Register in 1969 and is now owned by the National Park Service. Around 1831, Isaac Pierce's son, Joshua, cleared a road along the Klingle Valley to provide access to his farm, Linnean Hill, which he built ca. 1823. For many years this precursor to Klingle Road was referred to as Joshua Pierce's Road.[5]

After the conclusion of the Civil War, a new location for the president's house was sought outside of the congested city. In search of a suitable site, Civil War mapmaker Nathaniel Michler undertook an extensive survey of undeveloped areas of the District. Michler's detailed report to Washington's Office of Public Buildings and Grounds extolled the extraordinary beauty of the Rock Creek Valley.[6] Although the president's house was never relocated, Michler's 1867 report influenced the 1890 federal purchase of much of the Rock Creek Valley for public use.

By 1890, Washington's infrastructure had been vastly improved through the efforts of the City Commissioners, the Army Corps of Engineer's Office of Public Buildings and Grounds (OPB&G), and a short-lived territorial government run by Alexander "Boss" Shepherd. Before it was dissolved over alleged corruption in 1874, Shepherd's regime graded and paved miles of streets, planted thousands of trees, and eliminated the infamous Washington canal. By 1889 OPB&G Officer Richard Hoxie announced that the city's streets were "beyond question unsurpassed by any city in the world." The city's efforts were enhanced by private development, including ten streetcar lines that provided reliable transportation for the expanding population.[7]

Streetcar lines built beyond L'Enfant's planned city allowed people to live further from their downtown jobs. Speculators bought large undeveloped tracts in these outlying areas and subdivided them for suburban housing. One such subdivision was Woodley Park, laid out between the Rock Creek and Klingle valleys in the mid-1870s.[8] Potential buyers were likely discouraged, however, by its location between ravines that lacked convenient crossings.[9]

Around the time Woodley Park was platted, commissioners expressed concern that the streets in these new subdivisions were not designed to coordinate with the city as a whole. To address this concern, the Engineer Commissioners recommended a comprehensive street plan to guide development beyond L'Enfant's plan.[10] By 1888, the Commissioners had developed a comprehensive highway plan and a law was passed requiring new subdivisions to comply with it.

In the following two years, the federal government made two major purchases to retain large expanses of public open space despite the pressure of development. In 1889, Congress purchased 166.3 acres northwest of Connecticut Avenue between the Rock Creek and Klingle valleys as the site of a National Zoological Park, and in 1890, Rock Creek Park was established 23 years after Michler recommended its preservation.

First Connecticut Avenue Bridge over Klingle Valley (1891)

Although the commissioner's highway plan was devised to guide development of new roads, the federal government did not allocate funds for their clearing, grading, or paving. The 1890 extension of Connecticut Avenue across Rock Creek, through Woodley Park, over the Klingle Valley and northwest to the Maryland Line was funded and built by the private sector.

Nevada Senator Francis G. Newlands was largely responsible for the extension of Connecticut Avenue into Maryland and the construction of its first bridge over Klingle Valley. He owned large portions of stock in both the Rock Creek Railway Company and the Chevy Chase Land Company. The railway was chartered in Washington in 1888 to build a streetcar line from the city to a subdivision planned at Chevy Chase, just over the Maryland Line. The Chevy Chase Land Company was chartered in Maryland to continue construction of the railway line in Montgomery County, Maryland. The charter required the construction of a bridge over Rock Creek and another smaller bridge over the Klingle Valley.[11] The Rock Creek Railway did not cross the Rock Creek Valley on the Connecticut Avenue alignment, but farther to the west on an alignment with Calvert Street. The streetcar line began on 18th Street just north of the boundary at Florida Avenue. Underground conduits were required for all streetcar lines within the City of

Washington, but because it began just north of the boundary, the Rock Creek Railway could employ cheaper overhead lines.[12] The streetcar line veered west at Calvert Street and crossed the Rock Creek Valley on a 755-foot-long steel-deck truss bridge built by the Edgemore Bridge Company.[13] The streetcar line then continued northwest on the same alignment as L'Enfant's Connecticut Avenue all the way into Chevy Chase, Maryland.[14]

On the site of the present crossing, the Youngstown Bridge Company of Youngstown, Ohio built a 497-foot bridge to span the Klingle Valley. The $35,000 structure was a pin-bridge carried on a steel truss with stone abutments.[15] According to the terms of the agreement, both the Calvert Street and Klingle Valley bridges were deeded to the District Commissioners. After acquiring the Klingle Valley Bridge on July 20, 1891, the city became responsible for its maintenance. According to the *Washington Post*, repairs to the bridge would cost about $60,000 over the next 40 years.[16]

In the three years it took to build the route, the Rock Creek Railway Company graded Connecticut Avenue, cutting down hills with pick and shovel and filling in valleys with cartloads drawn by horse. Under the supervision of Ohio coal mining operator and railroad developer A. J. Warner, the entire line was built for about $1,000,000.[17]

When the line opened for passengers, it featured eighteen streetcars, including six 32-foot cars, six 16-foot cars, and six open cars. Cars could travel up to 30 miles per hour over the six-mile route. Passengers included commuters as well as recreational riders who rode the line to enjoy cool breezes and views of some of the District's most beautiful scenery.[18] In 1895, the Rock Creek Railway acquired the much larger Georgetown Railroad Company, which had been chartered in 1862. The merger created a new company, the Capital Traction Company, which could take advantage of the more liberal provisions of the Rock Creek Railway's charter.[19]

Suburban Development of Cleveland Park and Woodley Park (1891-1930)

The streetcar line created a corridor for suburban development and influenced the growth of the project vicinity over the following decades. In 1894, several years after the completion of the

first bridge over Klingle Valley, Washington realtors Thomas Waggaman and John Sherman laid out Cleveland Park and began building houses. The homes were designed individually by architects, giving the neighborhood its wide variety of architectural styles. The suburb was named after President Grover Cleveland who remodeled a stone farmhouse in the area in 1886 as a summer residence for himself and his new wife, Francis Folsom.[20]

Although some of the area's first homes were for summer occupancy, dwellings built after the completion of the bridge were for year-round residents who could commute downtown on the new streetcar line. After only eight houses were built in the subdivision, Sherman built a waiting shed on Connecticut Avenue to protect commuters from the weather.[21]

To the south of the Klingle Valley, Waggaman developed another subdivision at Woodley Park. Although it had been platted and replatted throughout the late nineteenth century, its first homes were not built until after 1905. By 1910, however, it had 144 buildings, which included single homes, rowhouses, and semi-detached houses.[22]

Access to both neighborhoods was further enhanced with the 1907 completion of the William Howard Taft Bridge, which continued the alignment of Connecticut Avenue over Rock Creek. The new bridge was built on the alignment of Connecticut Avenue on the same plane as the street system. Designed by famous bridge engineer George S. Morison, the 'Million Dollar Bridge' was one of the world's first and largest unreinforced concrete bridges and was hailed as a masterpiece. The designs for subsequent Rock Creek crossings, including those for the 1931 Connecticut Avenue Bridge over Klingle Valley, would be judged in comparison to this crossing.[23]

Construction of the Connecticut Avenue Bridge substantiated that the lower Rock Creek Valley southwest of Rock Creek Park would be preserved. In the nineteenth century, some recommended filling the ravine entirely and channeling the creek in an underground sewer. Others suggested it be preserved and developed as a parkway to connect Rock Creek Park to East and West Potomac Park and the Mall in the city's ceremonial core. The 1901 McMillan Senate

Park Commission Report and the subsequent creation of the Commission of Fine Arts (CFA) largely influenced the ultimate preservation of the valley.[24]

The McMillan report, which has been called the nation's first comprehensive plan for modern city development, was compiled by a committee of nationally renowned designers; namely architects Daniel Burnham and Charles F. McKim, landscape architect Frederick Law Olmsted, Jr. and sculptor Augustus St. Gaudens. Espousing the ideals of the City Beautiful Movement, they advocated enhancing and expanding upon Pierre L'Enfant's visionary plan of 1791.[25] While much of the McMillan Plan applied to the ceremonial core around the White House and Capitol, the committee also supported the development of Rock Creek Park and the parkway connecting it to the Mall area.

To carry out the ideals of the McMillan Commission, President Taft recommended the creation of the (CFA). Formed in 1910, the commission's charge was to advise on all plans for statues, fountains, and monuments in Washington's public parks and streets and on all public buildings erected by the government in the District of Columbia. Former McMillan Commission member Daniel Burnham chaired the CFA, and Olmsted was among its members.[26] Thus the CFA ensured that the ideals of the McMillan Plan would guide development in Washington, D.C. for decades to come. One of the early McMillan Plan projects was the development of the Rock Creek and Potomac Parkway, which was authorized in 1913 in legislation signed by President Taft.[27]

The ideals of the parkway were incorporated into plans that were drawn for an elegant parkway that would provide access to the Zoological Park. In a 1916 plan for the Klingle Valley Parkway the erratic angles of Klingle Road west of the bridge were gracefully softened into a curving roadway with wide, landscaped medians. In place of the 1892 viaduct carrying Connecticut Avenue over the valley, the plan indicates a new "Proposed Klingle Road Bridge," suggesting that the existing utilitarian structure would not be appropriate in the planned landscape.[28] Although the elegant parkway was never built, the Federal Government purchased parcels in the valley into the 1950s. It is also likely that the ongoing discussion of creating a scenic parkway through the valley influenced the design of the 1931 bridge, which was carefully evaluated for its aesthetic effects on the valley.

As new roads opened up the city's northern reaches, Connecticut Avenue evolved into a major commercial artery. In 1921, the first commercial building was erected facing the avenue in Woodley Park. The one-story store would be a harbinger of the avenue's commercial development over the next two decades.[29] Commercial development over the next decade included the 1930 construction of the Park and Shop between Ordway and Porter Streets in Cleveland Park, which was one of the country's first automobile-oriented shopping centers. By 1936 the neighborhood got its own movie house with the construction of the art deco designed, Uptown Theater.

In addition to the increase in commercial development on Connecticut Avenue, the early 1920s also marked the beginning of the avenue as a corridor for apartment buildings. In 1922, construction began on the massive Cathedral Mansions apartment complex on the southeast side of Devonshire Street near the southeast end of the Klingle Valley Bridge. Its resounding success influenced the construction of 50 more apartment buildings along the Connecticut Avenue corridor over the next decade.[30] The proliferation of apartment buildings reflected Washington's expensive housing market at the time. The new, stylish buildings offered a sophisticated alternative to crowded boarding houses for Washingtonians who could not afford single homes. In 1928, apartment buildings accounted for 70 percent of all new residential construction in the city. By 1930, 50 percent of all Washingtonians lived in apartment buildings.[31]

Between 1926 and 1930, each of the four lots immediately adjacent to the Klingle Valley Bridge were developed with apartment buildings. The first of these was the five-story brick apartment building built in 1926 on the northwest side of the bridge at 3217-21 Connecticut Avenue, which was designed by George L. Santmyers. In 1927, 3220 Connecticut Avenue designed by Frank Russell White, was built across the street.[32] In 1929, Woodley Park Towers, designed by Louis T. Rouleau, Sr., was built southwest of the bridge's southeast end at 2737 Devonshire Place, and in 1930 construction began on the Kennedy-Warren Apartments on the opposite side of Connecticut Avenue.[33]

The evolution of Connecticut Avenue and its surrounding neighborhood through the first three decades of the 20th century and the increasing popularity of the automobile led to the need for

replacing the old viaduct. Park planners' proposals for replacement, which began as early as 1916, were joined by local residents and businesses. In a weekly bulletin in 1922, the Washington Board of Trade named replacing the bridge third in priority after the replacement of the "unsightly and absolutely inadequate" Calvert Street Bridge and the Chain Bridge. The bulletin described the Klingle Valley Bridge as "another bridge which is subjected to unusually heavy traffic and which is by reason of its construction unsuitable to modern conditions." Although the Engineer Department of the District of Columbia avowed that the bridge remained safe, the trade bulletin stated "as a matter of fact when used by heavy vehicles the vibration thereon is exceedingly great".[34] The Washington Board of Trade had been pivotal in influencing the creation of Rock Creek Park in 1890, and was said to have wielded more power in Washington at the time than any group other than Congress or the District Commissioners.[35]

In addition to the Washington Board of Trade, the Connecticut Avenue Citizens Association applied pressure to Congress for funds to replace the bridge. This group, comprised largely of Woodley Park residents, had coalesced around the time the Taft Bridge was built. More than a decade after the new Connecticut Avenue Bridge over Klingle Valley was built, the association still considered its role in influencing the construction of the bridge to be one of its most important contributions to the city.[36]

Construction of the Connecticut Avenue Bridge over Klingle Valley (1930-1932)

In 1930, Congress provided for a new bridge in its annual appropriation for the District of Columbia for fiscal year 1931. The appropriation included $250,000 for the construction of a new bridge with the condition that construction costs would not exceed $500,000.[37] By that time, Connecticut Avenue was carrying 30,000 vehicles each day including bus lines and streetcar tracks. The avenue had been widened to 60 feet, but the roadbed on the bridge was only 40 feet wide and created a traffic bottleneck. In an earlier effort to create a wider roadway, the west sidewalk of the viaduct was extended out from the structure on steel brackets.[38] The new bridge was designed to accommodate widening at a later date to 80 feet. It would not only increase the available lanes, but would carry far more weight. The 1892 viaduct was designed to carry 6 tons, whereas the new bridge was loaded for 20 tons.[39]

On the new bridge, the Capital Traction Company would be responsible for costs relating to the laying of its propulsion system and the surfacing of the bridge between its tracks and for two feet on both sides.[40] Construction would be overseen by the District of Columbia Department of Highways, which was responsible for Washington's bridges and other highway structures, including tunnels, viaducts, underpasses, overpasses, culverts, wharves, and retaining walls.[41]

The bridge was to be finished before spring of 1932 in time for the seasonal influx of tourists.[42] To hasten the necessary preliminary approvals for the bridge, John C. Gotwals, Engineer Commissioner of the District of Columbia, contacted Charles Moore, Commissioner of the CFA to request that a representative of the CFA be present for the opening of bids on October 15. Gotwals wrote that he was hoping to secure a "very high-class of engineering talent, with architectural collaboration".[43]

In response, Moore offered his cooperation and indicated his hope that the proposed collaboration of an architect with an engineer would better ensure the development of "as simple a design as is possible." Moore referred to the earlier rejection of several bids for the Calvert Street Bridge that were too elaborate and not "in due subordination to the Connecticut Avenue Bridge." He stated that he hoped the city would find a "big enough architect to design a simple structure".[44]

The bidders included Ralph Modjeski, principal of the firm Modjeski Masters and Chase. Modjeski was best known at the time for his design of bridges for Alaskan Railway and for his role consulting with the Canadian government after the collapse of the Quebec Bridge.[45] Modjeski presented his bid to the CFA on October 16, 1930. The Commission generally approved of his presentation and recommended that his firm's preliminary plans should exhibit special attention to limiting the visual impact of the bridge on the wooded park below. Further, they wanted the bridge to appear as a constituent part of Connecticut Avenue that did not need any elements to mark its beginning and end. The CFA also recommended special care in the railing to divide the pedestrian lanes from those used by streetcars and motor vehicles.[46]

Gotwals replied to Moore that "every effort will be bent toward attaining the objectives desired by the Fine Arts Commission." He added that the preliminary design would be completed by mid-November and requested that the CFA consider the design upon receipt rather than waiting for its regularly scheduled meeting.[47]

To prepare the preliminary plans for the bridge, Modjeski called on the services of architect Paul Phillipe Cret, with whom he had collaborated on bridge designs for more than a decade. Cret was known locally as the architect of Washington's Pan American Union building and the Folger Memorial Library.[48] Although the CFA had expressed a desire for a steel bridge at this crossing, Modjeski and Cret prepared preliminary studies using both masonry and steel bridges. On November 18, the team presented complete architectural renderings and models of both types of bridge and constructed a model of the valley in which the two bridge models could be set for comparison.[49]

The same day, the approval was received from CFA and NCPC on the steel bridge, allowing the designers to begin on the working drawings. The commissioners planned to advertise for construction by mid-January.[50] The *Washington Star* included a rendering of the proposed bridge in its November 18 issue.[51] The article stated that the new bridge would have abutments faced with stone from quarries near Washington and that it was designed to have a lifespan of between 50 and 100 years.[52] Provisions also were made in the plans for future installation of underground trolleys should it ever be decided to extend this system out Connecticut Avenue.[53]

At its December 4 meeting, the CFA officially approved the preliminary design for the steel bridge, with a few minor conditions. They suggested that the deck level be lightened by the use of balusters instead of an unbroken parapet. They also recommended that the size of the torus coping be reduced and that the lantern bases be redesigned to show greater strength.[54]

For Cret and Modjeski, the work came at a fortuitous time. As a result of the 1929 stock market crash, nearly half of the architectural firms in the country went bankrupt in 1930. Despite the commission for the bridge, Cret's office grossed only about half as much as the $205,000 it had made in 1929. As the bridge was built in 1931, Cret's office cleared only $54,000.[55]

The commissioners began advertising for bids for construction of the new bridge around February 15, 1931, and planned to open bids in early March.[56] By March 26, the city conditionally approved the bid of $459,440 from the W. P. Thurston Company of Richmond, Virginia, which was the lowest of the nine bids submitted. The bid lacked a required set of specifications, however, and its accompanying bond was erroneously submitted in the form used by the federal government, not by the District of Columbia. The city gave the company the chance to resolve these issues, because the low bid would allow for the use of stone on the abutments. If the city had to award the contract to the next lowest bidder, from the Charles H. Tompkins Company for $490,430, the abutments would have had to have been faced with concrete.[57]

Apparently W.P. Thurston satisfied the conditions and was awarded the contract by April 1.[58] Construction began on May 1 and was scheduled to take nine months.[59] Although traffic would continue over the crossing throughout the construction, Highway Department Directory Herbert C. Whitehurst announced that some traffic restrictions would be necessary. He recommended that people use other routes if possible. Buses and streetcars would be limited to 10 miles per hour on the bridge and cars and trucks equipped with pneumatic tires would be limited to 15 miles per hour. To enforce the rules, police would be stationed at each end of the bridge around the clock. Additionally, no vehicle weighing more than 28,000 pounds would be allowed to cross the bridge during construction, and solid tire trucks weighing more than 10,000 pounds were required to cross the bridge on the streetcar tracks.[60]

Overseeing construction was fourth generation Washingtonian Albert Beale Green. It was probably his first job as resident engineer for the highway department, since he had been hired by the city earlier that year. He came with valuable experience, however, having served in the Corps of Engineers during construction of the Wilson Dam on the Tennessee River in Alabama, on the Mississippi River Commission, and in the Corps of Engineers St. Louis Office. He was a 1916 graduate of St. Albans and graduated from the Massachusetts Institute of Technology in 1921. After completing the Connecticut Avenue Bridge, he continued to serve as resident engineer on all major bridge construction in Washington until his retirement in 1958.[61]

The planned 250-foot steel arch was to be the longest span in the city at the time. The ribs that formed the arch were first assembled in the shop to check the accuracy of the length and the milling of the joints.[62] By October 25, the ribs were all in place and the temporary roadways were created on the outer portions that would later be converted to sidewalks. Captain Whitehurst announced that on October 26, all southbound traffic, including streetcars, would be diverted to the new roadway. Northbound traffic would follow suit the following week. Once traffic was successfully diverted to the outside spans, removal of the old viaduct in the center would begin.[63] Less than a month later, a *Washington Post* reporter marveled at the old and the new spans, "the one gradually disappearing as the other appears is a striking contrast in modern and obsolete bridge construction".[64] By that time, work was a month ahead of schedule. The reporter added that construction of the new bridge had been begun none too soon, because during construction, one of the old piers, which had been raised six feet several years earlier was found to have cracked.

On January 27, 1932, the *Washington Times* announced that the "Bridge is Done 19 Days Early".[65] The *Washington Star* of the following day enthused, "seldom, if ever, has a public work been executed in the District of Columbia with greater satisfaction on the part of the community than that of the construction of the new bridge across the Klingle Valley at Connecticut Avenue".[66] The article continued, "so well was the work coordinated that at no time was there any serious delay in the handling of the great and continuous stream of travel." The bridge was described as "commodious and sound and attractive," and the extra cost of keeping it open during construction was only $4,800.[67]

Captain Whitehurst was so proud of the job that he submitted an article on its construction to *Engineering News Record* magazine entitled "Building a Bridge in Three Strips." The article, which was published in December of 1932, included photographs of construction and the completed bridge. In the article, Whitehurst described the successful construction process that allowed continuous traffic while a new bridge completely replaced an old crossing.[68]

Connecticut Avenue Bridge over Klingle Valley (1932-2002)

Since the 1930s, the bridge and its immediate neighborhood have remained remarkably unchanged. Although the bridge shows signs of its age, such as spalling concrete, rust, and cracked, chipped, and broken stonework, few substantial changes have been made to it since its initial construction. In 1971, during the construction of the city-wide metro system by the Washington Metropolitan Area Transit Authority (WMATA), Connecticut Avenue was selected as the route for part of the system's Red Line. The underground tunnels were bored beneath the right-of-way of the avenue and the bridge, and a substation was built in the south abutment. Because these abutments were hollow, the construction had little effect on the exterior appearance.[69]

After the 1960s' demise of Washington's streetcar system, the unused tracks on the bridge were completely removed in 1977. The work, undertaken by the District of Columbia Department of Transportation Bridge Design Division, included the complete replacement of the bridge's road surface and sidewalks. At that time, the present low metal guardrails were added on both sides of the roadway. The plans also called for the removal of the original light fixtures and the addition of the three cobra-head fixtures now in place.[70]

Because the area had been largely developed by the end of the 1930s, it remained largely unaffected by the post-World-War-II construction boom that changed the face of Washington's suburbs. Beneath the bridge, the Federal Government continued its efforts to preserve the Klingle Valley watershed, and by the 1950s, had purchased all of the parcels that now comprise Federal Reservation 356 in the Klingle Valley. In 1977, the federal land in the valley was transferred to the jurisdiction of the Rock Creek Park Division of the National Park Service.[71] The Klingle Road beneath the bridge washed out in a storm in 1991 and has remained closed to traffic. Tall chain-link fences have been added beside the asphalt roadway beneath the bridge, which continues to be used by pedestrians.

Original Designers: Engineer Ralph Modjeski and Architect Paul Cret

Ralph Modjeski
Ralph Modjeski (1861-1940) was born in Cracow, Poland, as Rudolf Modrzejewski. His mother, Helena, a Shakespearian actress was considered by many as "the premier tragedienne of her time." She moved to California with her family in 1878 and changed her name to Madame Modjeska. Rudolf served as her advance agent and secretary and changed his name to Ralph Modjeski to ease pronunciation for Americans.[72]

Modjeski was a prodigious pianist who reportedly memorized four Kohler etudes and nearly all of Mozart's Sixth Sonata after his first seven lessons at the age of 10.[73] He ultimately applied his genius to civil engineering, returning to Europe to study at *the Ecole des Ponts et Chaussees* in Paris, graduating at the head of his class in 1885. Later that year, he married fellow Cracow native Felicie Benda in New York.[74] The couple moved to Chicago where Modjeski began working in the office of famous bridge engineer George S. Morison, who later designed Washington D.C.'s Taft Bridge.

After seven years with Morison, Modjeski struck out on his own to design a seven-span double-deck railway and highway bridge over the Mississippi River at Rock Island, Illinois. For the next few years, he developed standard designs for steel bridges for the Northern Pacific Railway Company. In the first years of the twentieth century, he was chief engineer with the Southern Illinois and Missouri Bridge Company building a railway bridge at Thebes, Illinois, and with the Northern Pacific Railway Company reconstructing a railway bridge in Bismarck, North Dakota. He also designed railway bridges over the Columbia and Willamette rivers in Oregon, known as the Vancouver-Portland bridges. In 1906, he designed an electric railway bridge over the Illinois River at Peoria, and in 1907 he designed the McKinley Bridge in St. Louis, Missouri, which carried a railway and a highway[75].

Between 1905 and 1915 Modjeski was the chief engineer for all bridges for the Oregon Trunk Railway, and in 1910 he returned to Portland to design the Broadway Bridge over the Willamette. Around 1913, he designed his first concrete arch bridge for the city of Toledo, Ohio. He also

built two bridges over the Mississippi River, one in Memphis, Tennessee, and the other in Keokuk, Iowa.[76] During the period from 1908 until 1917, Modjeski oversaw the reconstruction of the Quebec Bridge over the St. Lawrence River after the 1907 collapse of the original bridge, which killed 75 people. The replacement, a 1,800-foot cantilever bridge, remains the longest non-suspension span in the world. In New England, Modjeski worked on several projects for the New York, New Haven, and Hartford Railroad Company, and in 1922 he designed a bridge over the Tanana River in Alaska for the federal government. In the 1920s, he designed bridges over the Ohio River in Cincinnati, over the Missouri River in Omaha, Nebraska, and over the Columbia River in Wenatchee, Washington.

In 1924, Modjeski partnered with Frank M. Masters to form the firm of Modjeski and Masters. The two then designed a concrete-arch and a stone-faced arch bridge over the Susquehanna River in Pennsylvania. Between 1920 and 1926, Modjeski and Masters worked on the Ben Franklin Bridge over the Delaware River in Philadelphia. It was Modjeski's first collaboration with architect Paul Cret, and the completed bridge was widely praised. The longest suspension bridge ever built at the time, it is commonly considered Modjeski's finest work.[77] After the completion of the bridge, Modjeski added Clement E. Chase to the partnership forming Modjeski Masters and Chase. At the time, the firm's main office was in Harrisburg, Pennsylvania, but it had other offices in Chicago, Philadelphia, and New York.[78]

Throughout the late 1920s and early 1930s, Modjeski Masters and Chase designed highway bridges and railroad bridges in Pennsylvania, New Jersey, Ontario, Louisiana, Kentucky, and Indiana, as well as the Gothic-style suspension highway bridge over the Hudson River at Poughkeepsie, New York. Among these, the Huey P. Long Bridge, built over the Mississippi River at New Orleans between 1926 and 1936 was the longest continuous steel bridge in the world.

In 1931, the firm worked again with Paul Cret on designs for two bridges in Washington, the Calvert Street Bridge and the Connecticut Avenue Bridge over the Klingle Valley. The latter, built at the beginning of the Depression, cost less than $500,000. It was one of Modjeski's smallest projects, which ranged in cost from a $500,000 to $37,000,000.[79] In 1933, after Chase

died unexpectedly, Montgomery B. Case filled his position, and the firm became Modjeski Masters and Case.[80]

In addition to running a successful bridge design firm, Modjeski also consulted on many projects that were not formally attributed to him, including the Manhattan Bridge in 1909 and studies to tunnel under the Hudson River in 1916. Modjeski also consulted with the USSR on a plan for the Palace of the Soviets in Moscow.[81] Modjeski wrote numerous professional papers as well as professional reports on various bridges he worked on. His long list of awards included the Grand Prize from the Polish Government at the Exposition of Industry and Science at Posen, Poland, and the John Fritz Medal, which is considered American engineering's highest honor.[82] The Republic of France made him a Knight of the Legion of Honor in 1926, and in 1929 he was selected as a United States representative to the World Engineering Congress in Japan. The Pennsylvania legislature honored him posthumously in 1966 as one of America's greatest inventors.[83]

The program for his 1930 John Fritz Medal described his bridge designs as being graceful and sincere demonstrations of the inherent beauty of straightforward steel construction, without the concealing artifice of masonry cladding. Modjeski also was credited with making significant contributions to the technical methods of bridge design and construction.[84]

Modjeski's last major work was the San Francisco-Oakland Bay Bridge, a bridge and tunnel system that extends over eight miles. Because his health was failing, Modjeski moved to California in 1936 to avoid repeated travel during its construction. As Modjeski's condition worsened, Frank Masters became sole owner of the firm in 1937, which became Modjeski and Masters.[85] Ralph Modjeski died in 1940 and was survived by three children, and his second wife, whom he married in 1931. Frank Masters wrote his obituary for the 1941 *Transactions of the American Society of Civil Engineers* and stated, "with his death the profession lost a pronounced personality and one who well merited the reputation of one of the world's leading bridge engineers".[86]

Frank M. Masters

Frank Masters studied at Cornell University and began working in Ralph Modjeski's firm in 1904. He left the firm in 1916 to serve in World War I as a major in the Ordnance Department of the U.S. Army. After the war, he returned to private practice in special industrial and railway work and returned to Modjeski's office as partner in 1924. As Modjeski's health deteriorated, Masters became sole owner of Modjeski and Masters in 1937.[87]

Among his major projects undertaken after acquiring the firm was the Walt Whitman Bridge over the Delaware River and Washington's Chain Bridge.[88] Also in Washington, Modjeski and Masters collaborated with Paul Cret in 1942 to design the South Capital Street Bridge over the Anacostia River, which was renamed the Frederick Douglas Memorial Bridge in 1965. World War II, however, delayed its completion until 1949.[89] In 1943, Modjeski and Masters collaborated again with Cret on two smaller bridges in Washington, the Independence Avenue over Park Drive and the Kutz Bridge that carries Independence Avenue over the Tidal Basin.[90]

Masters also was active in research and writing, covering subjects such as the design of heavy foundations, docks and wharves, and the aerodynamic stability of long span suspension bridges.[91]

Paul Cret

Although many local histories and guides indicate Paul Cret as the sole designer of the bridge, it is likely that he played a secondary role to Modjeski. Of the two men, however, his name is more widely recognized locally because of his significant contributions to Washington architecture.

Born in Lyons in 1876, Cret began his architectural career in his early teens, working summers in the architectural office of his uncle. He began formally studying at the *Ecole des Beaux Arts* in Lyons where he won the Paris Prize in 1896 that entitled him to study at the school.

After six years at the *Ecole*, Cret was invited to the United States to serve as the resident critic at the University of Pennsylvania School of Architecture.[92] Many American schools of architecture included *Ecole*-trained faculty members to inculcate their students with its formal aesthetic and art historical values. In a 1908 article in *The Architectural Record,* Cret defended the *Ecole* and elucidated his interpretation of its tenets. He wrote that the school taught respect for artistic truth. While architectural structures should foremost be suited to their location and use, their strength should be visually apparent, and they should be beautiful.[93] These universal principals of design could be applied to any edifice whether a large public building, a small house, a city plan, a landscape, a memorial, or even a bridge. Cret was a popular professor and mentored a new generation of promising architects, including his most famous student Louis Kahn.[94]

Cret's first major architectural work was the design for the Pan American Union (now the Organization of American States) in Washington, D.C.. The building is reminiscent of a Spanish colonial villa with influences of Renaissance France and Spain. It is further embellished with design motifs of pre-Columbian civilizations. When Cret submitted his design for the building in 1907, jury member Charles McKim was so impressed that he requested an additional $500,000 from the patron for the purchase of the marble indicated in Cret's plan.[95]

After the success of the Pan American Union, Cret and his firm Zantzinger, Borie and Medary gained numerous commissions for public buildings including the Indianapolis Public Library and the Detroit Institute of Arts. Cret left his practice temporarily to fight in World War I, which left him partially deaf. After the Armistice, General Pershing appointed Cret as the consulting architect for the American Battle Monuments Commission to oversee the design of war monuments throughout the United States and abroad.[96]

Throughout the 1920s and 1930s, Cret sought to reconcile architectural classicism and modernism and participated in the emergence of the Art Deco style. The modernistic International Style, begun in Europe after World War I, repudiated tradition and rejected natural materials such as wood and stone. Its advocates favored concrete, glass, and steel and created austere buildings devoid of ornament. In contrast, Cret believed designers could look toward the future while remaining loyal to the traditional ideals of classicism. In one of the many articles he

published on architectural theory, Cret praised aspects of the unadorned modern style, but encouraged architects to continue to strive for beauty. He wrote, "Logic and clarity and strength, although they are elements of the beautiful are not all there is to beauty".[97] He wrote in 1925 of his desire to create "a new classicism," in which beautiful buildings would be the result of harmonious proportions rather than applied classical ornamentation.[98]

Washington's Folger Shakespeare Library exemplifies Cret's efforts to reconcile his respect for classical tradition and form with the emerging principals of modernism. Built between 1928 and 1932, the building is harmoniously and classically proportioned. Although it includes classical embellishments such as fluting, repeating pilasters, and friezes, these features are streamlined. Additionally, the building employs modern materials, such as cast aluminum. The scale and style of the building successfully respects its unique setting between the monumental complex surrounding the Capitol and the residential neighborhood of Capitol Hill.[99]

This combination of streamlined classical details earned Cret accolades as a "Master of Greco-Deco design." Other critics have referred to him as a pioneer of the "starved classical" school.[100] His oeuvre represents a wide variety of styles and forms, stemming from his well-honed skills as an architect and his desire to consider each project as an individual entity with its own specific needs.[101] In addition to government buildings, libraries, museums and monuments, Cret designed campus plans, industrial buildings, five individual homes, railroad cars, and bridges. In his role as a critic, Cret served as a consultant to universities and various military branches.[102] In Washington, he served on the CFA from 1940 until his death in 1945.

The collaboration of Paul Cret and Ralph Modjeski

While Paul Cret tried to reconcile the divide between classicism and modernism in architecture, he also attempted to reconcile the division between architects and engineers in the design of bridges. Before the 1747 founding of the *Ecole des Ponts et Chausees* in Paris, architects were the sole designers of bridges. As bridge requirements became more complex with the advent of steel and concrete construction, engineers, capable of the necessary calculations, became primary

in their design. The early bridges built by the Rock Creek Railroad are good examples of functional bridges designed for stability and utility rather than beauty.

As the result of the debate over the design of the Delaware River Bridge (now the Ben Franklin Bridge), Paul Cret and Ralph Modjeski began their long association together as collaborators in bridge design. The post-World War I effort to build a bridge to span the Delaware River between Philadelphia and Camden, New Jersey, was rife with debate over whether such an important public structure should be designed by an architect concerned with its beauty, or an engineer who would ensure its strength and economy.[103] Soon after Ralph Modjeski was selected as the head of the design board for the bridge, Paul Cret and his firm were added to the team. Cret, locally admired for his architecture as well as his heroism in the recent war, was hired to ensure that the bridge would satisfy Philadelphia's aesthetic sensibilities. A reporter covering the collaboration intimated that Modjeski was initially wary of working with an architect, but soon found Cret to be "one who could express in aesthetic terms what the engineer needs to perfect his work of strength and utility".[104]

On the Ben Franklin Bridge, Cret affirmed his belief in honesty in architecture by suggesting that the steel towers be revealed, rather than clad in stone. Cret drew the towers himself, letting Modjeski calculate the thrust and bending movements.[105] Writing about the bridge in *The Architectural Forum,* Cret stated, "The spirit of steel is not the spirit of stone".[106] While steel embraced the future, stone was firmly rooted in the past. Cret designed granite-faced anchorages at each end of the bridge to join these symbols of the modern and the traditional. He repeated this combination of materials on the Connecticut Avenue Bridge over Klingle Valley.

In the end, Modjeski and Cret both agreed that the Ben Franklin Bridge, built between 1920 and 1926, was a successful collaboration.[107] Together they went on to design the 1930 Louisville Municipal Bridge over the Ohio River in Louisville, Kentucky, as well as the Tacony Palmyra Bridge over the Delaware River.

In Washington, after collaborating on the Connecticut Avenue Bridge over the Klingle Valley, Cret and Modjeski worked together on the design of the Calvert Street Bridge (now known as

Duke Ellington Bridge). In 1931, while the Connecticut Avenue Bridge was under construction, the two submitted an unsolicited design for a single span steel bridge to replace a viaduct similar to the one they were replacing over the Klingle Valley. They then worked with the CFA to create a bridge more in continuity with other Rock Creek Park bridges. They settled upon a masonry structure that coordinates with Taft Bridge.[108] Like the bridge over the Klingle Valley, its adornment is Art Deco, with four sculptures combining ancient deities and modern technology.

A biographer of Cret observed that his bridges "emphatically contrasted the tensile quality of steel and the compressive strength of masonry to amplify each in ways that dramatized the river and the particular conditions of use".[109] Cret also believed that engineering could serve as a conscience to architects prone to forget the realities of construction materials.[110] By 1936, Cret was considered expert enough on bridge aesthetics to write the introduction to bridge engineer Wilbur J. Watson's book *A Decade of Bridges 1926-1936.* The volume included photographs and brief descriptions of the 100 most significant bridges built throughout the world in the past decade. While the Connecticut Avenue Bridge over the Klingle Valley was not included among those outstanding bridges, three other bridges in Washington made the list. They were the Memorial Bridge, the Taft Bridge, and the Calvert Street Bridge.

In the introduction to the book, Cret acknowledged that in the collaboration of the engineer and architect in bridge building, "the engineer's part is undoubtedly the more important." He continued, "The architect may play second fiddle, but musicians know that the disparaging implication of these words is entirely unjustified, and that each part is vital to the score".[111]

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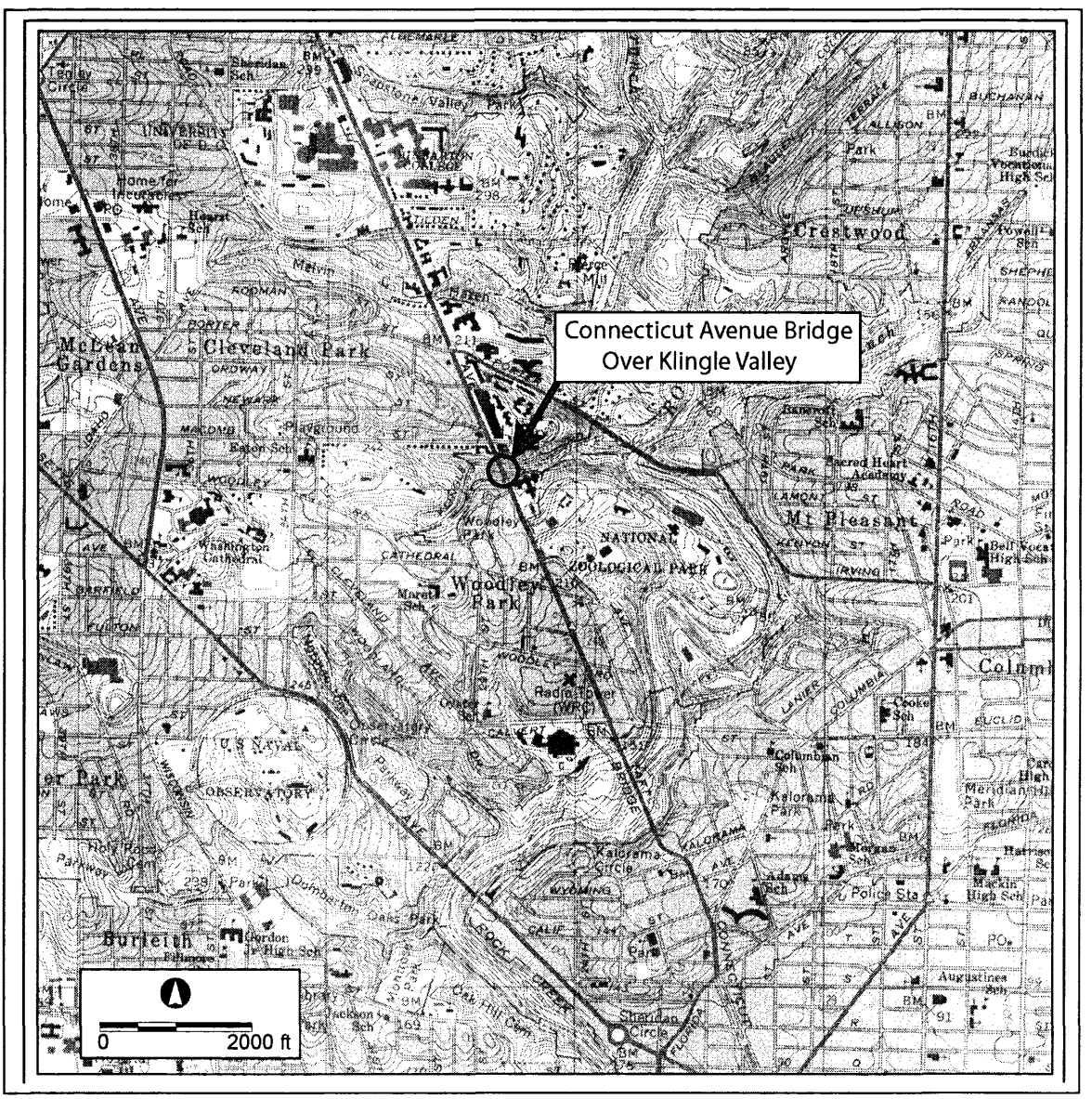
United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
Continuation Sheet

CONNECTICUT AVENUE BRIDGE OVER KLINGLE VALLEY, WASHINGTON, D.C.

Section number Map **Page** 1



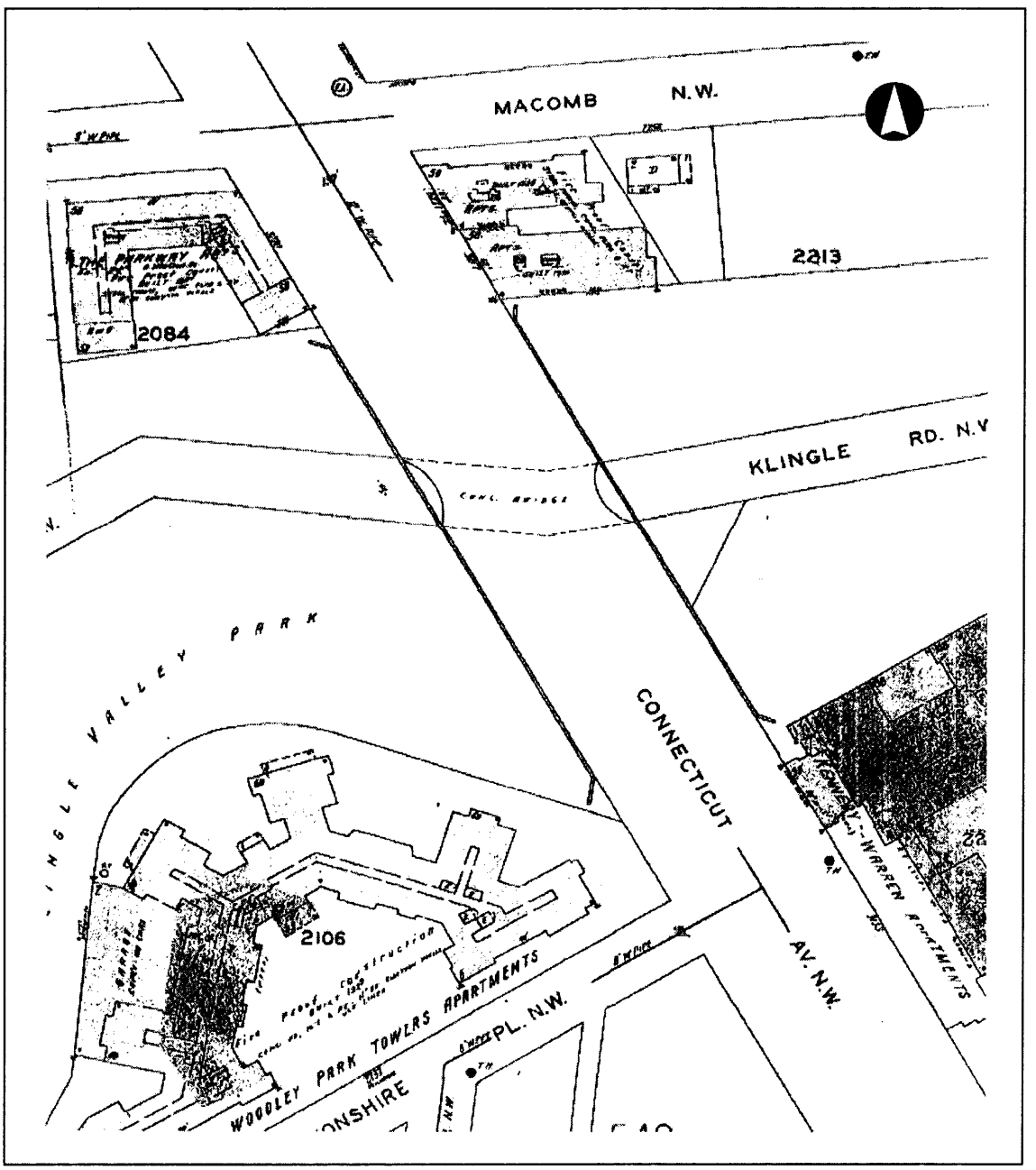
USGS Quad-Washington West (1965, Photorevised 1983)
UTM Coordinates-Point A (North end of bridge) 1/8 /3/2/1/7/0/0/ 4/3/1/1/3/6/2
Point B (South end of bridge) 1/8/ /3/2/1/7/4/4/ /4/3/1/1/2/2/5/

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
Continuation Sheet

CONNECTICUT AVENUE BRIDGE OVER KLINGLE VALLEY, WASHINGTON, D.C.

Section number Map **Page** 2



Sanborn Map-Washington, D.C. (1927, Corrected to 1959) Volume 5 Sheet 559
Connecticut Avenue Bridge over Klingle Valley

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
Continuation Sheet

CONNECTICUT AVENUE BRIDGE OVER KLINGLE VALLEY, WASHINGTON, D.C.

Section number Photographs **Page** 1

All Photographs are of:

Connecticut Avenue Bridge over Klingle Valley
Washington, D.C.
Parsons, photographer
February 2003

All negatives are stored with D.C. Historic Preservation Office, Washington, D.C.:

View of: Connecticut Avenue Bridge over Klingle Valley; view looking east
Photo: 1 of 5

View of: Connecticut Avenue Bridge from Klingle Valley; view looking southwest
Photo: 2 of 5

View of: Base of bridge; view looking south
Photo: 3 of 5

View of: Bridge from Connecticut Avenue; view looking north
Photo: 4 of 5

View of: Urns and railing; view from north side of bridge
Photo: 5 of 5

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 04000448 Date Listed: 5/21/2004

Property Name: Connecticut Avenue Bridge over Klingle Valley County: State: DC

_____
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Patrick Andrus 5/21/2004
Signature of the Keeper Date of Action

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Amended Items in Nomination:

This SLR is issued to change the Period of Significance for the bridge. In consultation with the DC SHPO the Period of Significance is now defined as ending in 1954, the 50 year cut-off point for National Register properties. The form is officially amended to include this change.

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)